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A survey of ditch flora in the North Kent Marshes SSSIs - 1995

Survey report

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A SURVEY OF DITCH FLORA IN THE NORTH KENT MARSHES SSSIs
1995

Survey Report

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A SURVEY OF DITCH FLORA IN THE NORTH KENT MARSHES SSSIs 1995

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SUMMARY

A survey of nearly 2000 grazing marsh ditches within the three large North Kent Marshes SSSIs in 1995 has been combined with the 1993 ditch survey (Morris *et al*) to provide a comprehensive dataset, which has been used to assess the botanical interest of the ditches both on the level of the land owner and across the area as a whole. The large amount of survey data has also been used to relate floristic diversity and species distribution to major physical factors such as salinity and adjacent land use. Distribution data is stored and displayed on a digital database.

1. INTRODUCTION

1.1 Background

The extensive areas of protected grazing marsh along the north Kent coast lie within three large estuarine SSSIs; South Thames Estuary & Marshes SSSI, Medway Estuary & Marshes Estuary & Marshes SSSI and The Swale SSSI. The total area of grazing marsh within these sites is c5000 ha, drained by a ditch system in excess of 2000 ditches.

The three SSSIs were renotified with modifications under the 1981 Wildlife & Countryside Act in 1984, and revised between 1990-92. The sites are notified for their extensive mosaic of wetland habitats, supporting considerable botanical, invertebrate and bird interest, and are of international importance (Ramsar Convention) and a Special Protection Area (EC Directive 79/409 on the conservation of wild birds).

Prior to renotification the ditches in selected areas of the North Kent Marshes were surveyed by the England Field Unit (*A botanical survey of ditches in selected areas of the North Kent Marshes, 1981*). The majority of ditches in each area were visually classified using a system based on results from a total of 128 ditches recorded across the selected areas. The report concluded that all the areas surveyed were sufficiently distinct from each other to warrant their inclusion within the SSSI series.

In 1993 another survey of ditches in selected areas of the North Kent Marshes was carried out jointly by English Nature and the National Rivers Authority, in connection with the designation of the North Kent Marshes Environmentally

Sensitive Area (*A ditch survey method for use in the North Kent Marshes Environmentally Sensitive Area, 1993*). A total of 450 ditches were sampled, a proportion of which were outside the SSSIs. The purpose of the survey was to develop a quick method for visual monitoring of ditches within the ESA scheme, based on ditch communities.

A comprehensive survey of all the ditches in the North Kent Marshes SSSIs has never previously been carried out.

1.2 Aims of the survey

The aims of this survey were to:-

1. Provide comprehensive survey data on the ditch flora of the North Kent Marshes SSSIs. This will help identify appropriate botanical conservation objectives for each block of grazing marsh, and ensure efficient targeting of resources.

2. Provide a base-line for future monitoring of site condition.

3. Enable assessment and monitoring of the effectiveness of S15 Management Agreements.

4. Identify areas where there are management problems.

5. Improve our understanding of how physical factors such as salinity and adjacent land use influence the floristic diversity of the ditches.

6. Assess the botanical quality of areas of grazing marsh outside the SSSIs.

1.3 Location of sites

South Thames Estuary & Marshes SSSI

This site contains about 2200 ha of grazing marsh, extending along the southern side of the Thames Estuary from Gravesend to the Isle of Grain. There are three main areas of contiguous grazing marsh. West Court Marshes, Filborough Marshes, Shorne Marshes, and Higham Marshes occupy the western end of the site (Map 1), Cliffe and Cooling Marshes occupy the central area (Map 2), and Allhallows Marshes and Grain Marsh lie at the eastern end of the site (Map 3).

The Swale SSSI

This site contains about the same amount of grazing marsh as South Thames Estuary & Marshes, approximately 2200 ha, extending along both sides of the Swale channel between the Swale crossing and Whitstable. Seasalter level and Graveney Marshes are located on the south side of the Swale at the eastern end on the site (Map 4). To the west grazing marsh is contiguous between Faversham Creek and Milton Creek, comprising Ham Marshes, Oare Marshes, Uplees Marshes, Luddenham Marshes, Teynham level and Blacketts (Map 5). On the south side of the Swale crossing Ridham Marshes is separated from Ferry Marshes (part of Medway Estuary & Marshes SSSI) by the A249, which forms the western boundary of the site (Map 6).

Most of the southern half of the Isle of Sheppey is reclaimed grazing marsh, some of which was enclosed relatively recently. Minster Marshes, Stray Marshes, Elmley Marshes and Spitend Marshes comprise the largest contiguous block of grazing marsh on Sheppey (Map 6), most of which forms part of the Elmley Estate. Capel Fleet and The Swale NNR lie at the eastern end of Sheppey (Map 7).

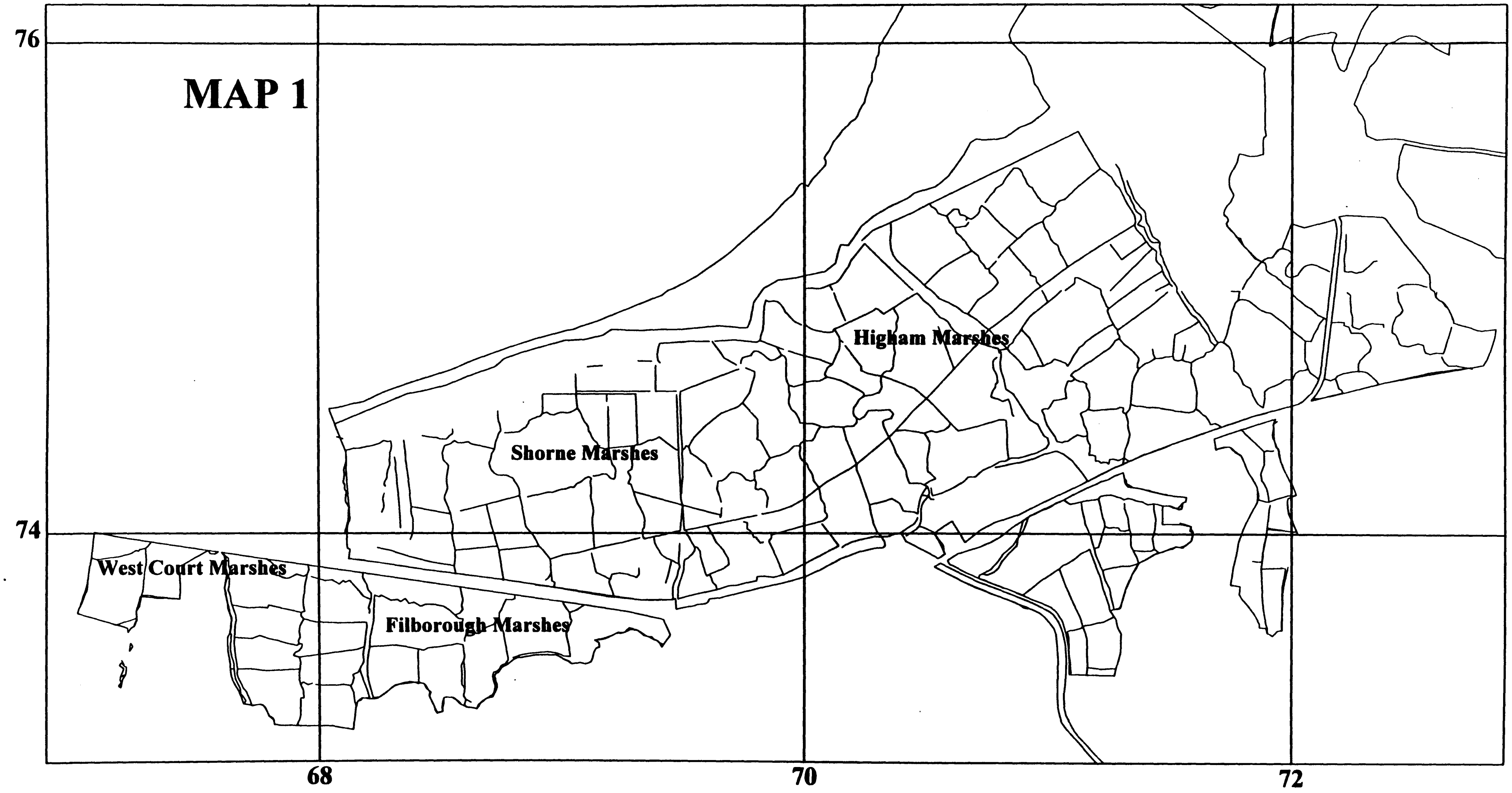
Medway Estuary & Marshes SSSI

This site contains a relatively small amount of grazing marsh compared to the other two sites, approximately 500 ha. The majority occurs at the eastern end of the site, west of the A249, comprising Chetney Marshes and Ferry Marshes, with Neatscourt Marshes opposite on the north side of the Swale crossing (Map 8). Smaller areas of grazing marsh occurs further west at Barksore Marshes and Horsham marsh (Map 8), with further fragments around the periphery of the site (Map 9).

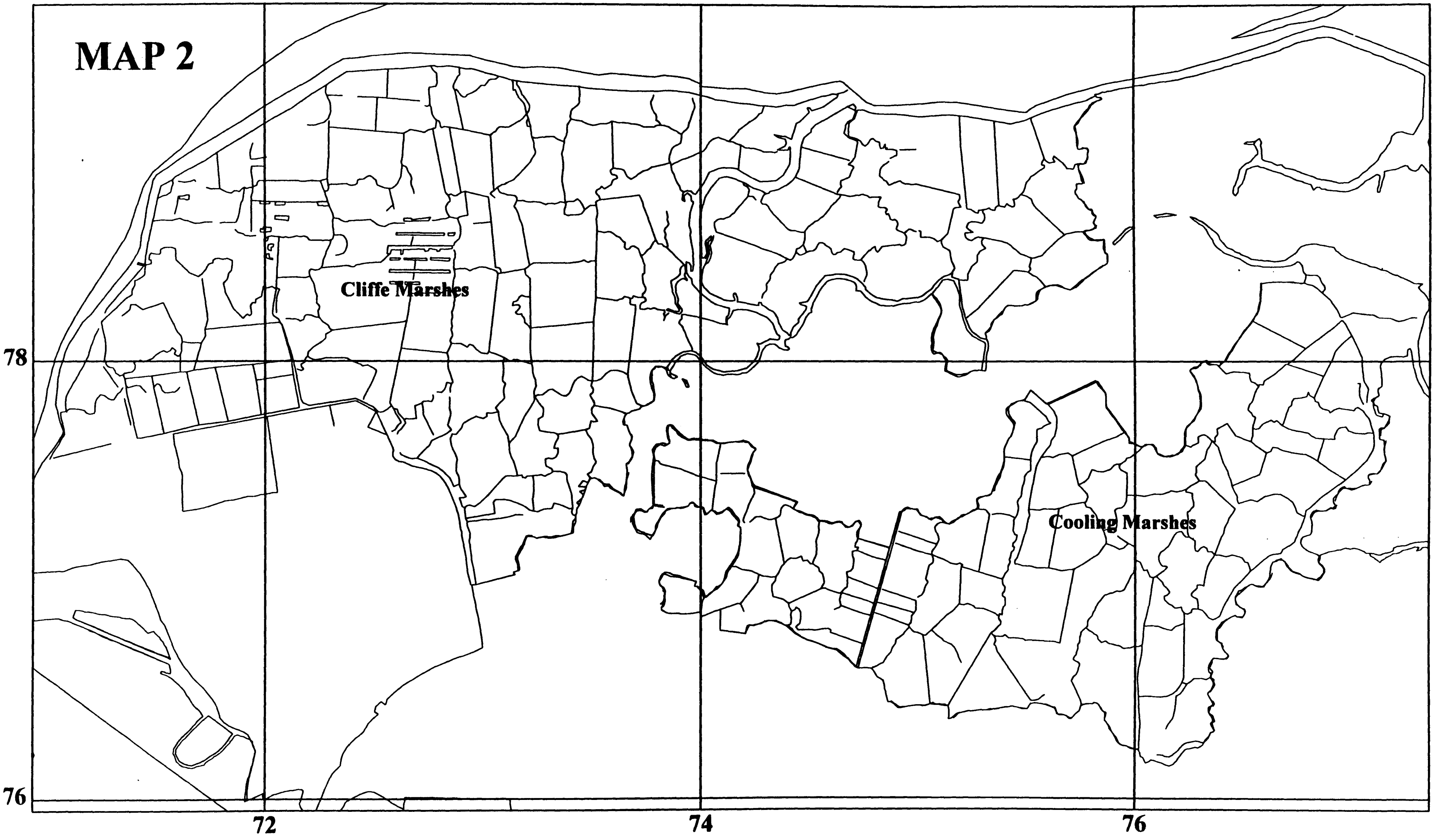
Diggs and Sheppey Court Marshes SNCI

This site lies to the north of Elmley Marshes on the Isle of Sheppey. It comprises approximately 200 ha of grazing marsh (Map 10), not included within The Swale SSSI.

South Thames Estuary & Marshes SSSI



South Thames Estuary & Marshes SSSI



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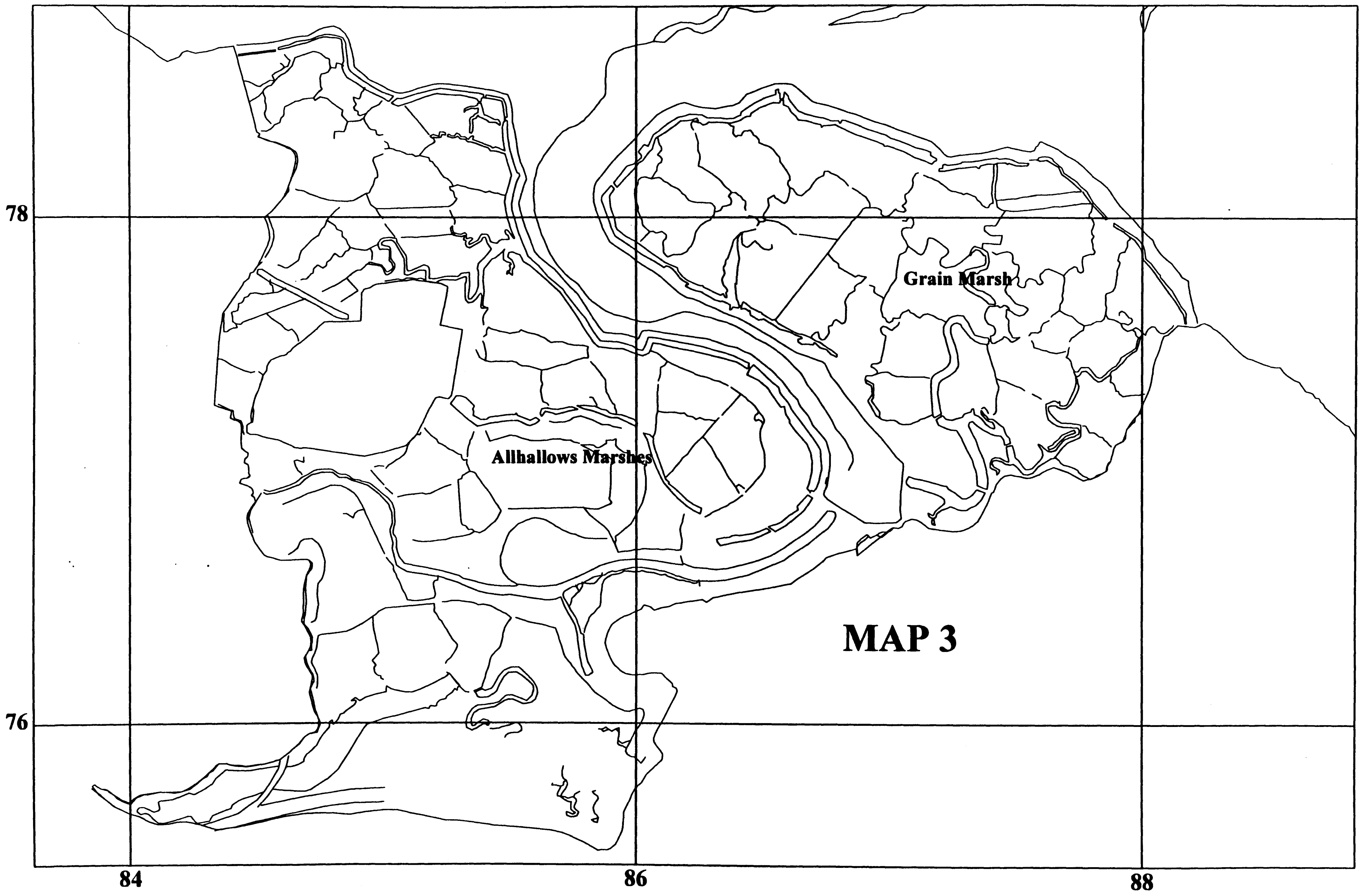
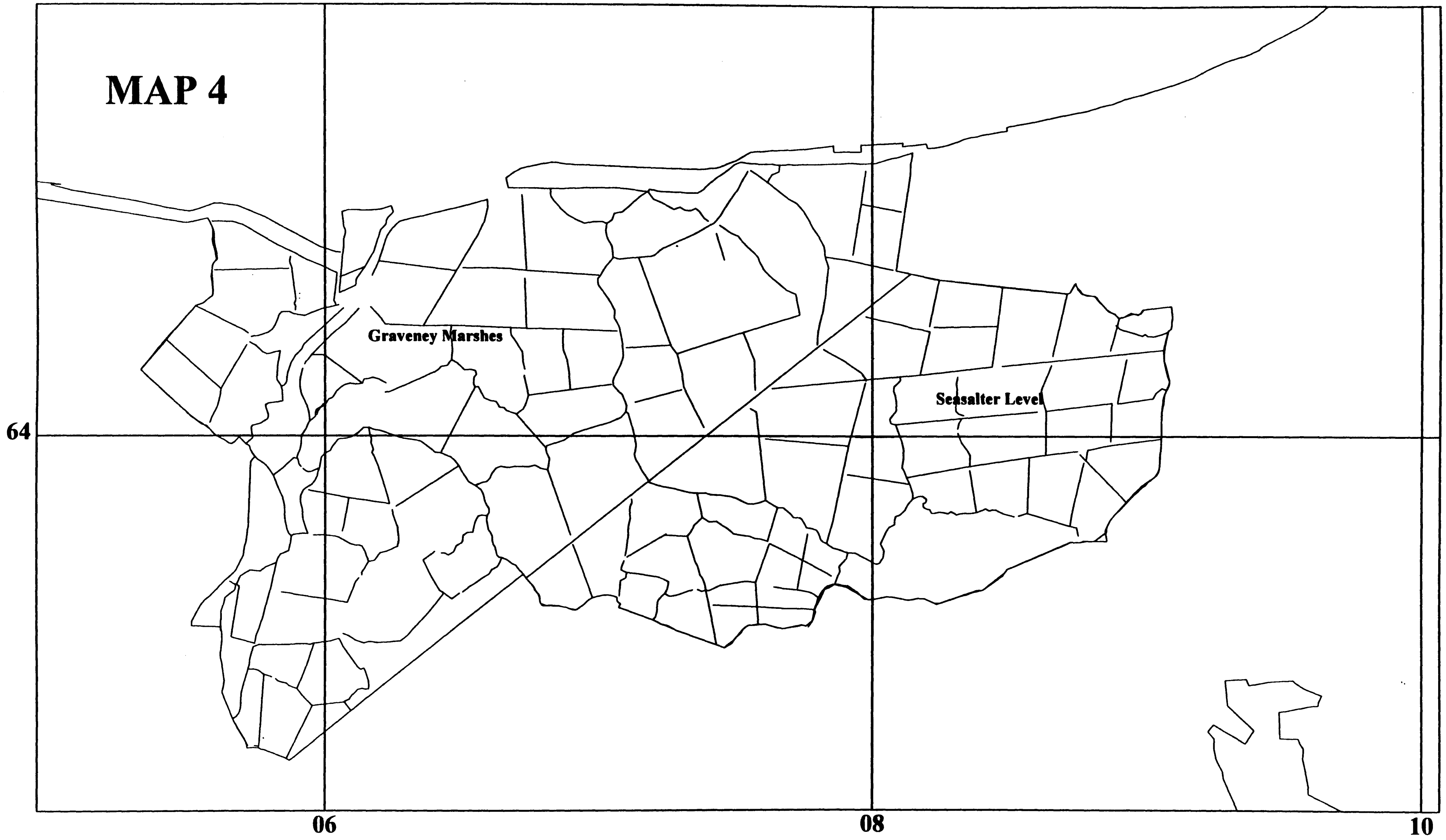


The Swale SSSI



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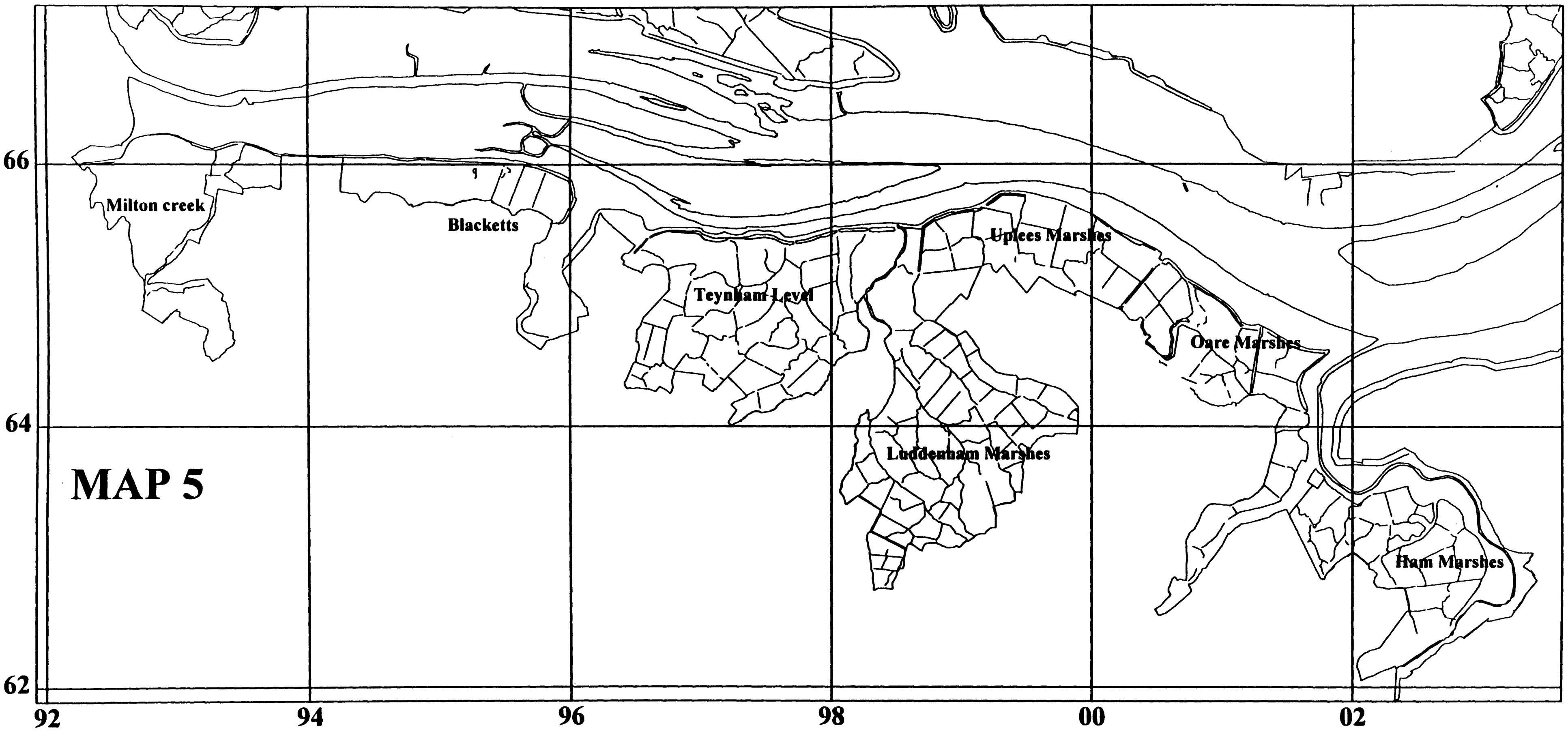

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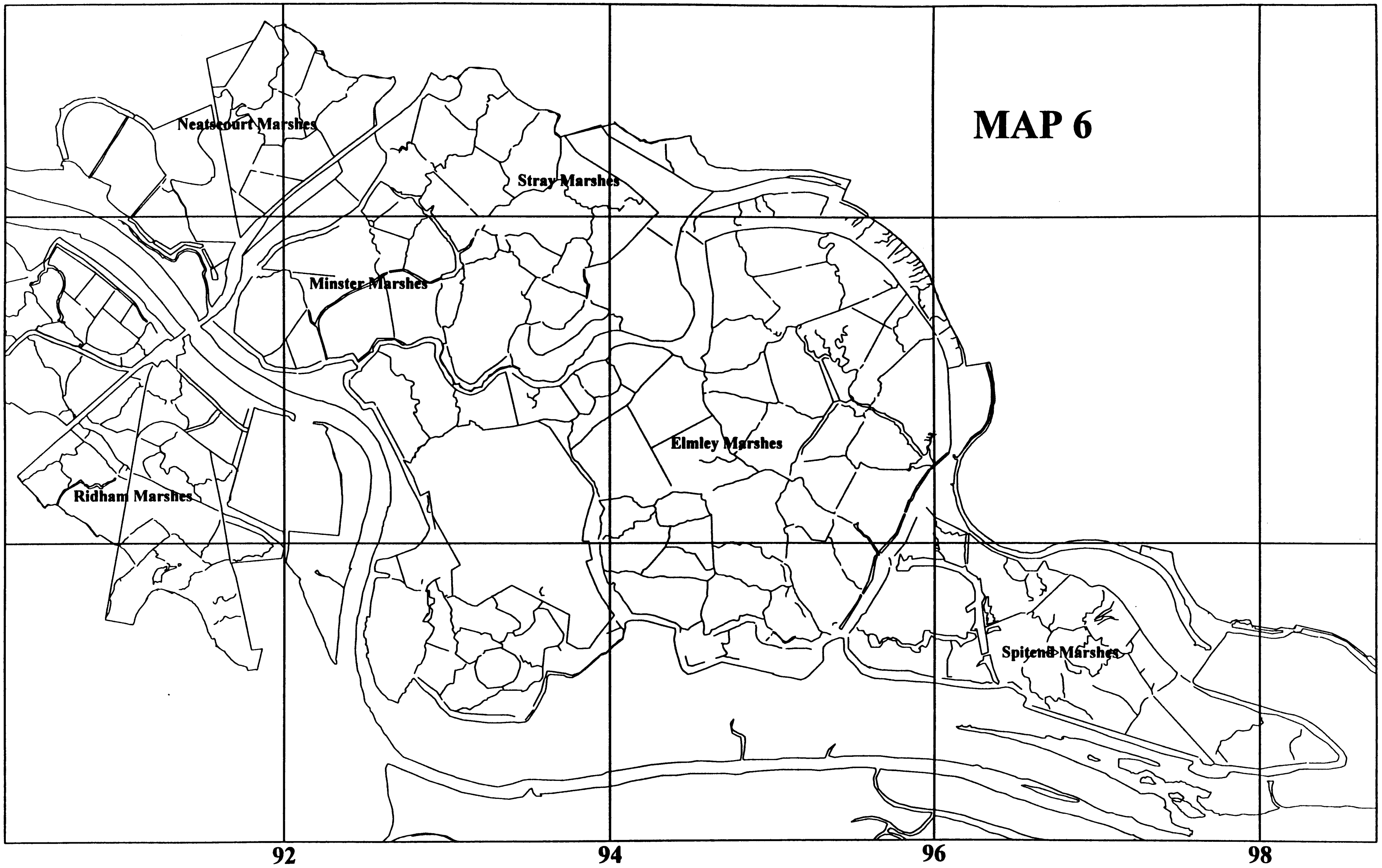

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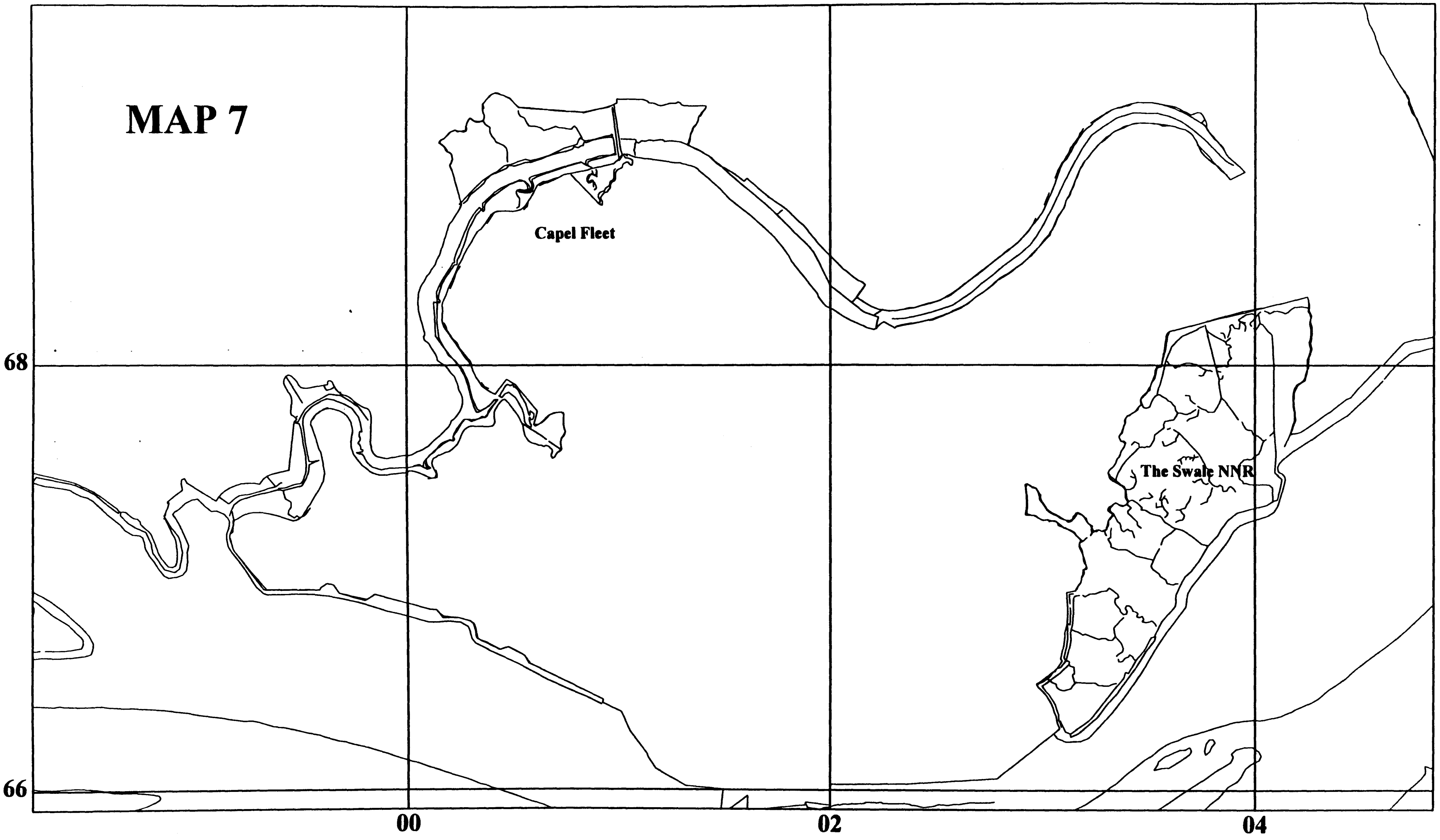
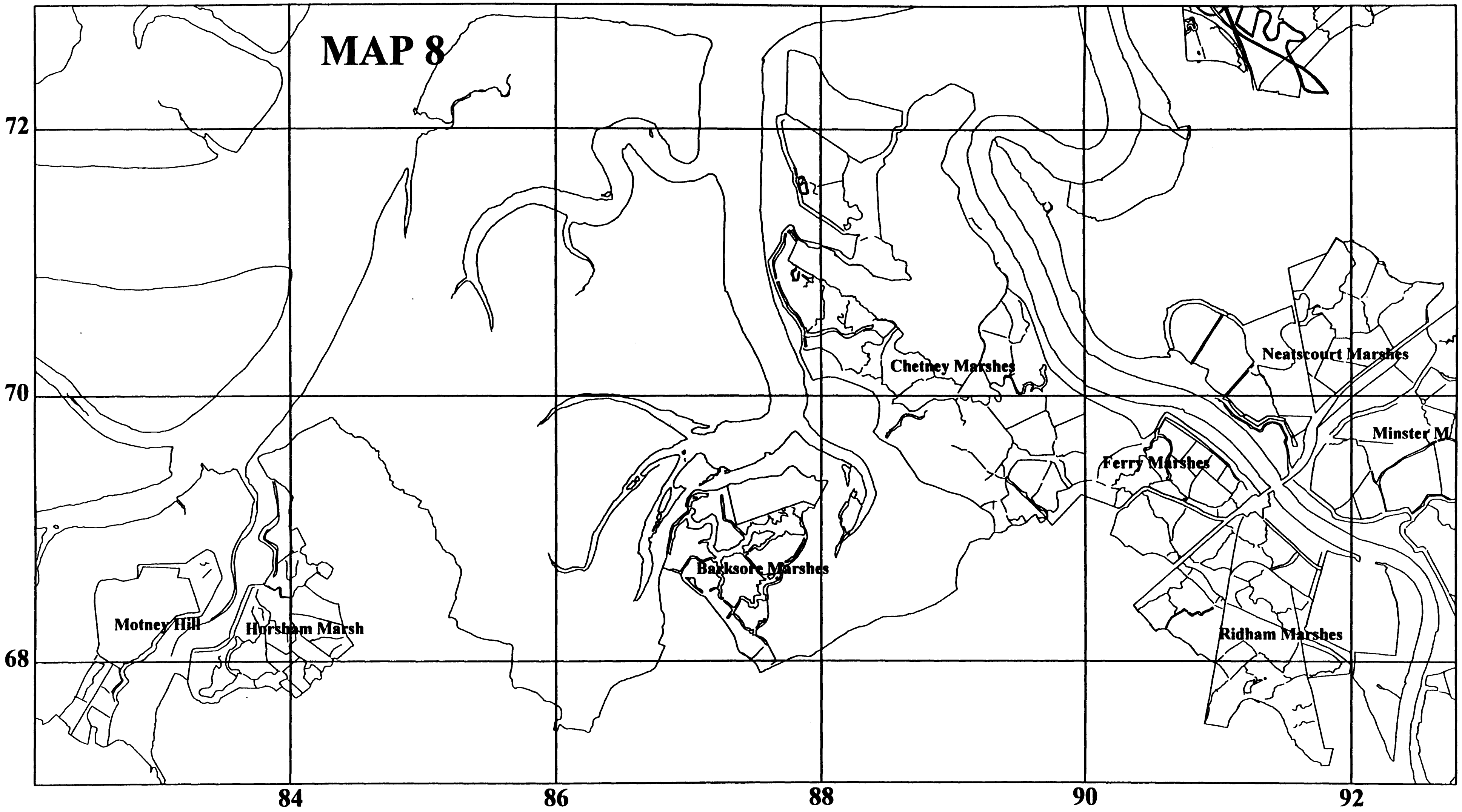
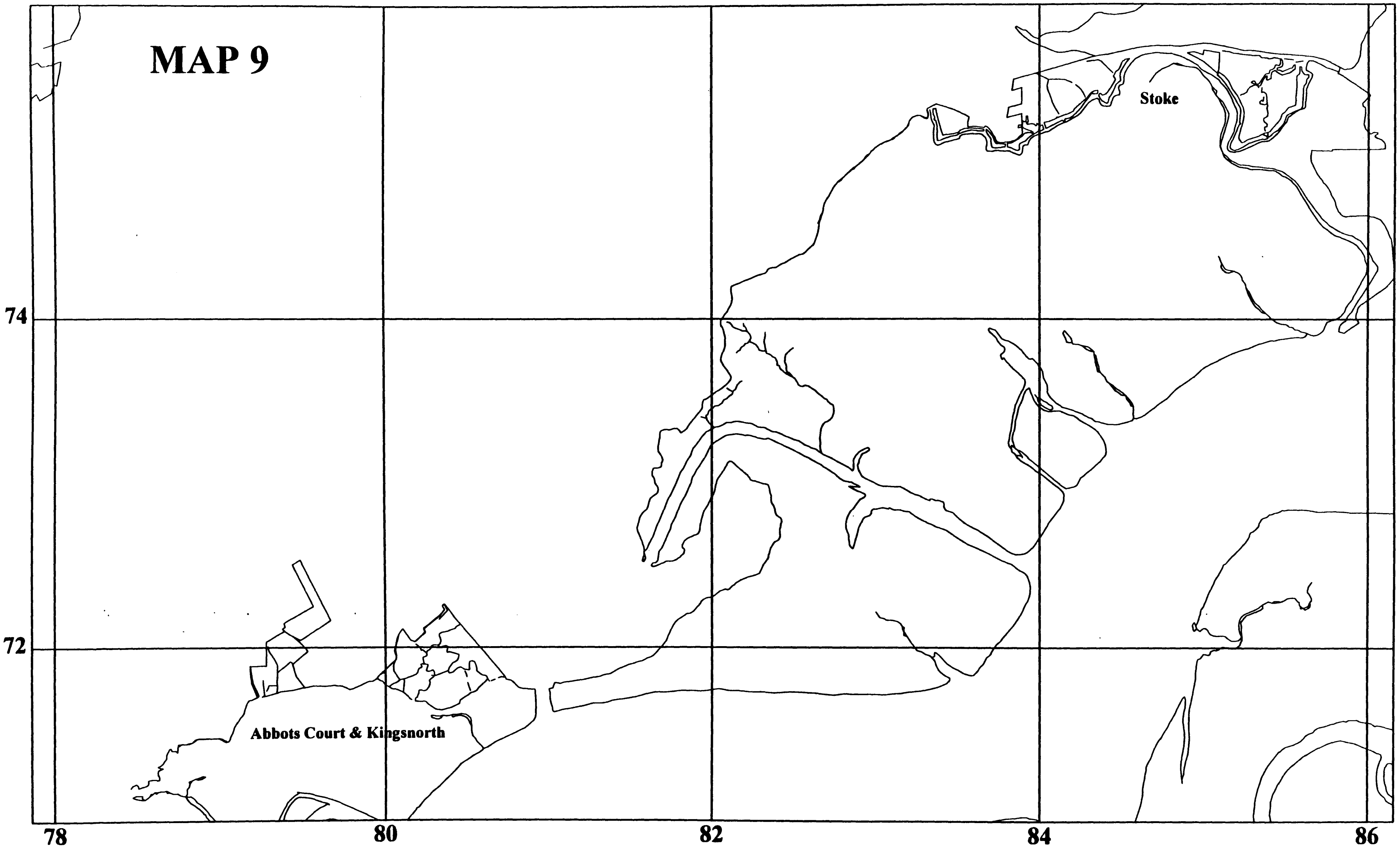


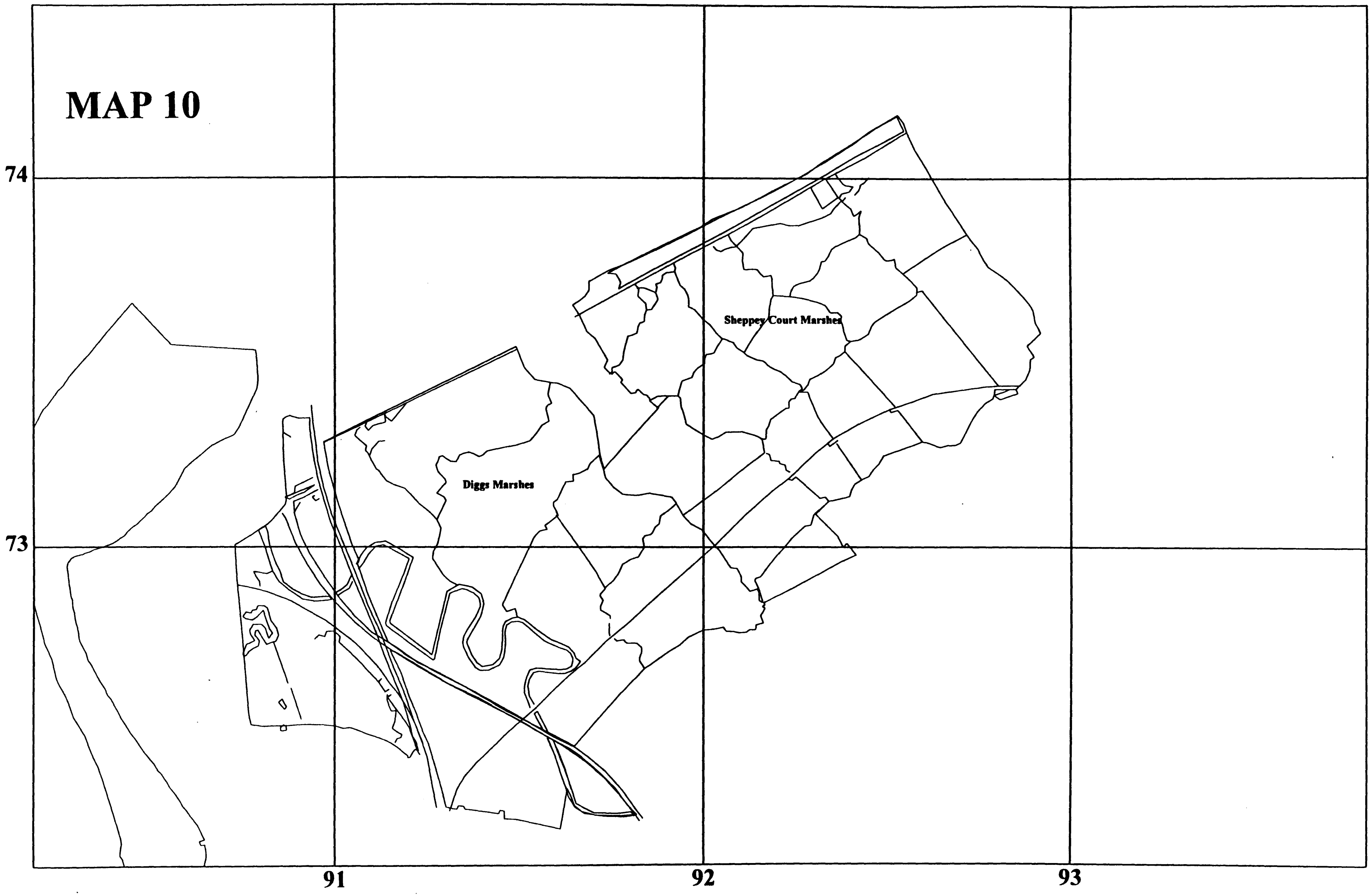
Medway Estuary & Marshes SSSI



Medway Estuary & Marshes SSSI



Diggs and Sheppey Court Marshes SNCI



1.4 The botanical interest of the North Kent Marshes SSSIs

1.4.1 Scarce and rare species

The North Kent Marshes are distinctly different from other large areas of lowland grazing marsh by virtue of their extensive brackish nature. The brackish ditches support a very characteristic and specialized flora, including several uncommon species, such as *Ceratophyllum submersum* and *Ranunculus baudotii*, two nationally scarce species, *Carex divisa* and *Polypogon monspeliensis,* and a nationally rare species *Chenopodium* chenopodioides. There are also records for the nationally scarce *Ruppia cirrhosa* on the North Kent Marshes, but this plant was not recorded during the survey. *Carex divisa* is frequent across the whole of the North Kent Marshes, while *Polypogon monspeliensis* and *Chenopodium chenopodioides* occur only in the most brackish areas. In addition to the brackish species, three nationally scarce freshwater species also occur, *Myriophyllum verticillatum*, *Oenanthe silaifolia* and *Stratiotes aloides*, though only in a very small number of ditches.

Several other nationally rare and scarce species occur on the seawalls and counterwalls, and less commonly in the grazing sward. These include the nationally rare *Peucedanum officinale* and *Lactuca saligna*, and the nationally scarce *Bupleurum tenuissimum*, *Trifolium squamosum* and *Hordeum marinum*.

1.4.2 Hydrology

Water levels across the North Kent Marshes follow an annual cycle in which high water levels during the winter months (extending into relic saltmarsh rills in the fields) fall progressively throughout the summer months, causing many of the ditches to dry out and increasing salinity in the system generally. This hydrological regime is most severe in the highly brackish areas, where direct rainfall is the principle or only source of water, and restricts the aquatic flora to a small number of ubiquitous species tolerant of high salinity, such as *Potamogeton pectinatus* and *Ceratophllum submersum*. The dominant emergent species *Scirpus maritimus* is very tolerant of high salinity and is often the only emergent species present. Receding water levels are important however because they leave drying muddy margins suitable for colonisation by annuals such as *Chenopodium chenopodioides* and *Polypogon monspeliensis*. Species more characteristic of upper saltmarsh such as *Juncus gerardii, Juncus maritimus* and *Glaux maritima* also occur on the banks.

1.4.3 Freshwater grazing marsh

More stable water levels occur where a wider catchment feeds into areas of freshwater grazing marsh. Within South Thames Estuary & Marshes freshwater ditches occur largely at the western end of the site, within an area which includes West Court and Filborough Marshes, the southern margin of Shorne Marshes and the southern half of Higham Marshes. The latter area is the most floristically rich, with uncommon species such as *Hydrocharis morsus-ranae, Butomus umbellatus* and the nationally scarce species *Stratiotes aloides* (thought however to be introduced on this site). Freshwater flow into other areas of grazing marsh on this site reduces salinity levels but overall has little impact on the overriding brackish nature of the ditches.

Along the southern boundary on the south side of The Swale the grazing marsh is well supplied by chalk springs, and in consequence species rich freshwater ditches occur inland at Seasalter, Graveney, Luddenham and Teynham. These ditches are floristically distinct from the freshwater ditches at Higham, with uncommon species such as *Utricularia vulgaris*, *Groenlandia densa* and the nationally scarce species *Myriophyllum verticillatum* and *Oenanthe silaifolia*.

1.4.4 Management of the grazing marsh

Traditionally the North Kent Marshes are grazed by sheep and cattle, with regular clearance of the ditches necessary to maintain adequate drainage and stock proofing. Stocking levels are generally not intensive, particularly in the South Thames Estuary & Marshes, where many fields are also used for producing hay or silage for part of the year. Management in many areas is influenced either by an English Nature Management Agreement or by the Environmentally Sensitive Area scheme, which provides payments to farmers for adopting sustainable management. A considerable proportion of the grazing marsh is managed specifically for nature conservation, with nature reserves on The Swale at Elmley, Spitend, Oare and Shellness, and on the Medway Estuary & Marshes at Chetney.

2. METHOD

The following methodology was employed, which is a modification of the standard method for ditch recording devised by Alcock & Palmer (1985). The modification increases coverage rate by recording presence or absence rather than DAFOR.

1. Every ditch across the survey area was identified on a map. A representative 20m section along each ditch was then sampled, recording the presence of all aquatic, emergent and wet bank species.

3. An abundance scale of 1 = 1 - 9%, 2 = 10% - 59% 3 = 60 - 100% was used to record the abundance of the two dominant emergents species, *Scirpus maritimus* and *Phragmites australis*. These two species occur very commonly on the marsh, making simple presence or absence recording much less informative. Only presence or absence of other species was recorded, though dominance by any species was noted.

4. The following additional data was also recorded for each ditch section:
    - The abundance of scrub cover (scale 1 - 3 above)
    - Ditch choked (by an emergent species)
    - Ditch dry (or nearly dry)
    - Ditch width (nearest metre)
    - Adjacent land use
    - Conductivity (μScm^{-1})

5. Floristic data was not recorded on ditches sampled during the 1993 survey of the North Kent Marshes ESA (Morris *et al*), except by accident. However the additional data listed in (4) above were recorded on all ditches.

6. Survey data was entered contemporaneously onto a Paradox database, assigning a grid reference to each ditch record.

7. The survey work was carried out from mid June to the end of August 1995, except for the majority of Shorne Marshes, which was surveyed in September 1994. West Court Marshes was not surveyed because access was not agreed.

8. One area of non-SSSI grazing marsh was surveyed, the SNCI site Diggs and Sheppey Court Marshes, which lies to the north of Elmley Marshes.

3. RESULTS

3.1 Survey Areas and Dates

Table 1 below is a list of survey areas and the dates they were surveyed. The approximate area of grazing marsh in each survey area is also given.

SOUTH THAMES ESTUARY & MARSHES SSSI	SURVEY DATES	AREA/ha
FILBOROUGH MARSHES	15 JUNE, 12 JULY	60
HIGHAM MARSHES	22 & 28 JUNE, 4 JULY	360
CLIFFE MARSHES	30 JUNE, 4-7 & 11 JULY	590
SHORNE MARSHES	11-12 JULY	200
COOLING MARSHES	12 -13 & 17-19 JULY	330
ALLHALLOWS MARSHES	26-28 JULY	430
GRAIN MARSHES	1 AUGUST	250
THE SWALE SSSI	**SITE TOTAL**	**2220**
SEASALTER LEVEL	2 & 16 AUGUST	180
GRAVENEY MARSHES	3-4 AUGUST	300
HAM MARSHES	8 AUGUST	180
OARE MARSHES	9-10 AUGUST	60
UPLEES MARSHES	9-10 AUGUST	30
LUDDENHAM MARSHES	9-10 AUGUST	180
SWALE NNR	15-16 AUGUST	100
TEYNHAM LEVEL	16-17 AUGUST	100
BLACKETTS	17 AUGUST	65
IWADE/COLDHARBOUR/RIDHAM MARSHES	17 AUGUST	80
CAPEL FLEET	22 AUGUST	80
STRAY/SOUTHLEES/ELMLEY MARSHES	23-24 & 30 AUGUST	580
MINSTER MARSHES	23 & 30 AUGUST	80
SPITEND MARSHES	30-31 AUGUST	185
MEDWAY ESTUARY & MARSHES SSSI	**SITE TOTAL**	**2220**
CHETNEY MARSHES	15 & 23 JUNE	220
FERRY MARSHES	26 JUNE	25
BARKSORE MARSHES	26 JUNE & 7 SEPTEMBER	30
NEATSCOURT MARSHES	22 AUGUST	60
HORSHAM MARSH	25 AUGUST	30
ABBOTS COURT/KINGSNORTH	29 AUGUST	28
STOKE	29 AUGUST	40
EN LAND AT CHETNEY	7 SEPTEMBER	40
MOTNEY HILL	7 SEPTEMBER	20
	SITE TOTAL	**493**
	NORTH KENT MARSHES TOTAL	**4913**

3.2 Sample Data Tables and Maps

The sample data tables and maps showing the location of ditches are contained in Appendix 1, which is separate to this report. This also includes the sample data and maps for the 1993 survey (Morris *et al*), which was not previously compiled, and the survey data and map for the SNCI site Diggs and Sheppey Court Marshes.

3.3 Distribution Maps

An interactive database (using the distribution mapping programme DMAP) has been set up, which displays distribution data on a digital map of the site. A selection of maps, relevant to the descriptions of the areas in section 4.2, are provided in Appendix 2, separate to this report. There are three types of distribution maps:-

1. Maps showing species distribution.

2. Maps showing the number of species in each ditch, using size classes for aquatic, emergent, bank, and all species.

3. Maps showing physical data; scrub cover, choked and dry ditches, ditch widths, conductivity values, adjacent land use.

3.4 Whole data analysis

The 1995 floristic data for all three SSSIs has been analysed with respect to the following physical factors:-

1. **Conductivity**. By extracting data through a series of six conductivity ranges, frequency of occurrence of species has been compared across the conductivity scale. This includes comparison of the average number of species recorded per 20m ditch section (divided into aquatic, emergent and bank species) and the total number of species in each range.

2. **Adjacent land use.** Ditches grouped by conductivity have been compared with respect to adjacent land use, to show floristic differences between grazed ditches in pasture, ditches adjacent pasture (grazed along one bank only) and ditches excluded from pasture and not subject to constant grazing pressure. The discussion also includes comparisons with particular land uses in specific areas, for example hay production at Higham Marshes.

3. **Ditch widths.** Ditches grouped by conductivity have been compared with respect to two ditch width categories, to show floristic preferences and physical differences in the frequency of scrub cover, choked and dry ditches.

4. **Transect analysis.** An example of the changes in flora along an individual ditch showing a conductivity gradient is included in the analysis (Table 11).

3.5 Comparison by Area

Summary results are provided for areas of contiguous grazing marsh within the SSSIs, and combined into totals for the SSSIs and for the North Kent Marshes as a whole. For each area and for the SSSIs as a whole the following results are provided:-

1. The percentage frequency of occurrence of all species, the total number of species recorded and the average number species per 20m ditch section (and separately for aquatic, emergent and bank species). Averages and totals exclude Filamentous algae, *Enteromorpha*, and records for grass dominant (*Agrostis/Alopecurus*).

2. The percentage frequency of occurrence of scrub cover, choked and dry ditches.

3. The proportion of ditches across the conductivity ranges, indicating the relative proportion of freshwater to brackish ditches.

4. The proportion of ditches in 'number of species' categories, with separate categories for numbers of aquatic, emergent, bank and all species.

5. The proportion of ditches in the adjacent land use categories.

3.6 Species identification

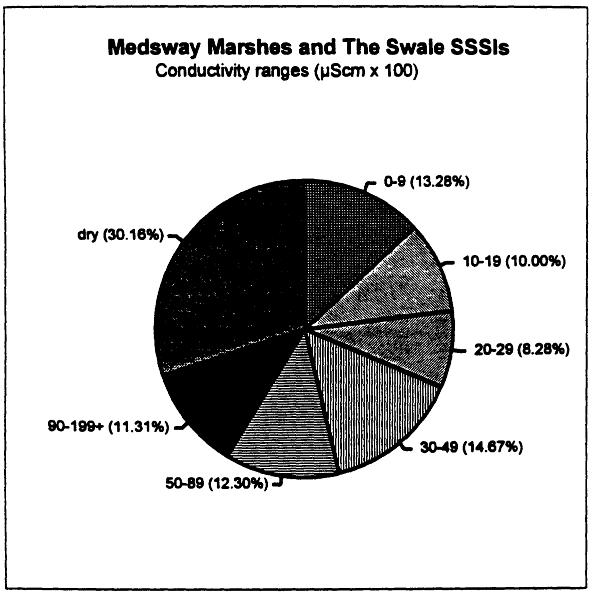
No separation was made in the field between the two fine-leaved *Potamogeton* species *P. pusillus* and *P. berchtoldii.* The separation of these two species depends on key characteristics which were thought too difficult and time consuming to determine. No separation was made also between *Scirpus lacustris lacustris* and *Scirpus lacustris tabernaemontani*, as this requires the presence of an inflorescence. *Salicornia* species were not distinguished. No *Ruppia* species were recorded during the survey, though it is possible that they *may* have been confused with *Zannichellia palustris*.

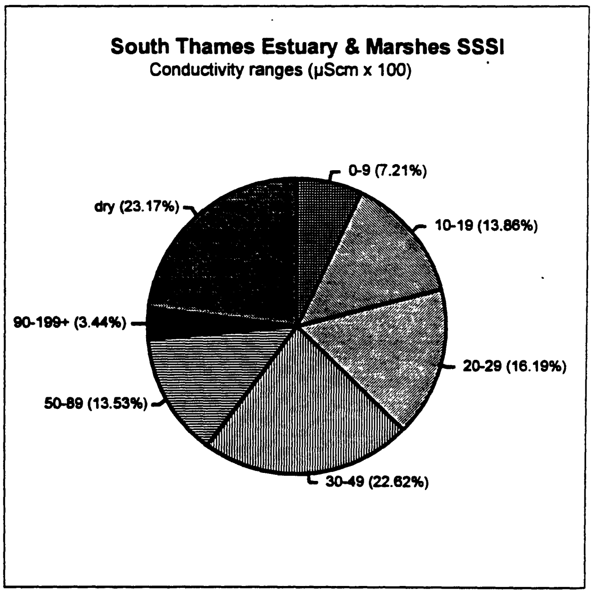
3.7 Survey days

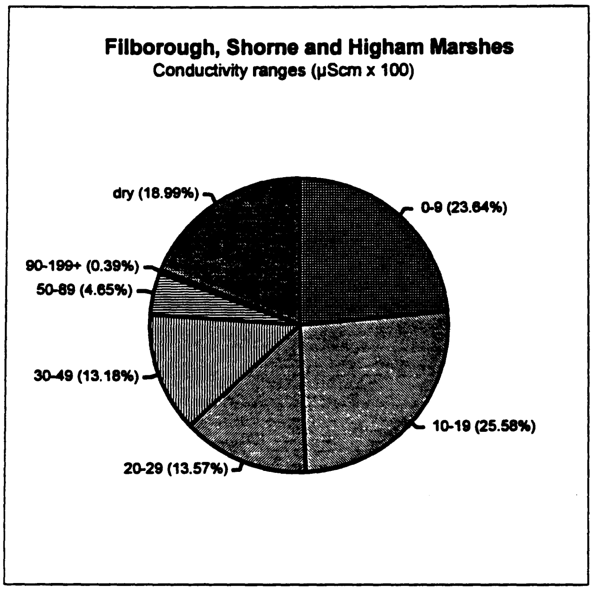
A total of 80 survey days were required to carry out the field work. This works out at approximately 60 ha or 25 ditches on average per day. The field work was completed in 10 weeks.

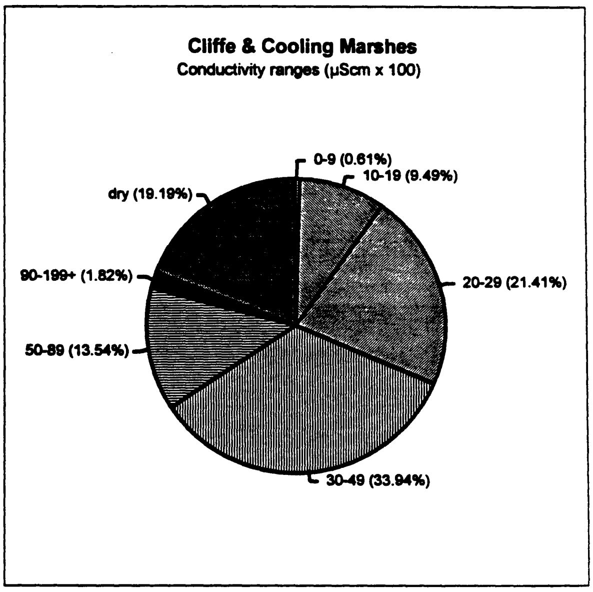
3.8 Tables and Pie Graphs

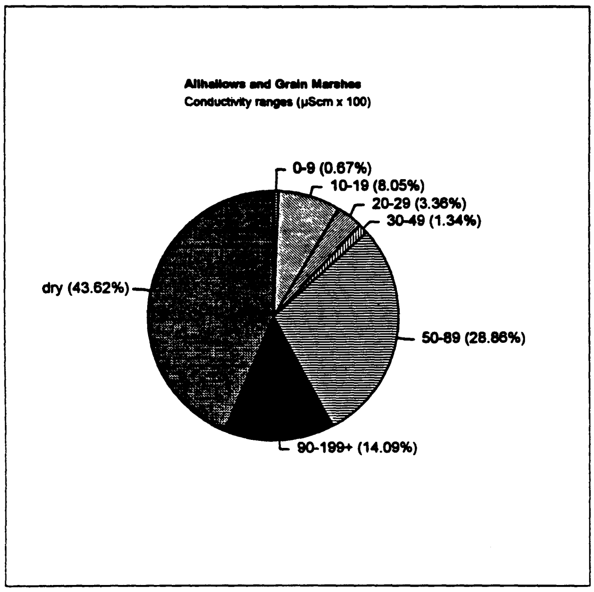
The results of the data analysis are given in Tables 2-11. This section also contains the pie graphs showing the proportion of ditches in the conductivity ranges, the 'number of species' categories, and the adjacent land use categories for each area.


Medsway Marshes and The Swale SSSIs
Conductivity ranges (µScm x 100)

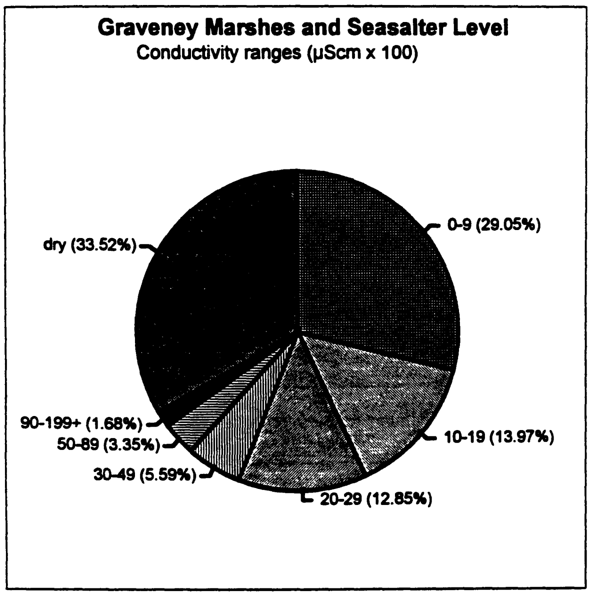

South Thames Estuary & Marshes SSSI
Conductivity ranges (µScm x 100)

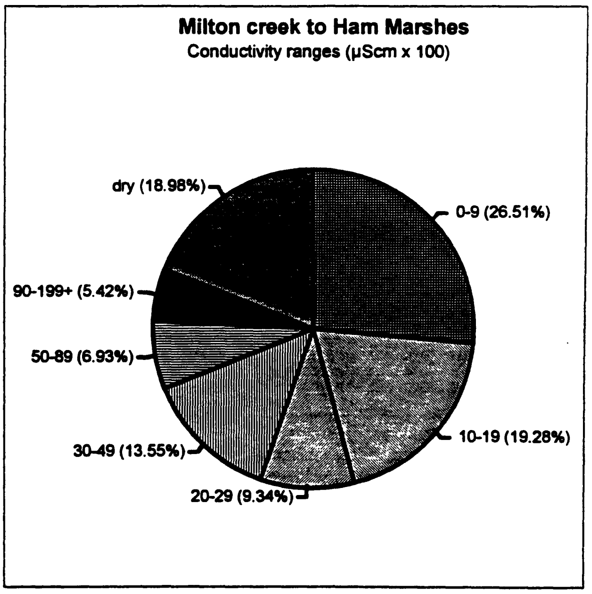

Filborough, Shorne and Higham Marshes
Conductivity ranges (µScm x 100)

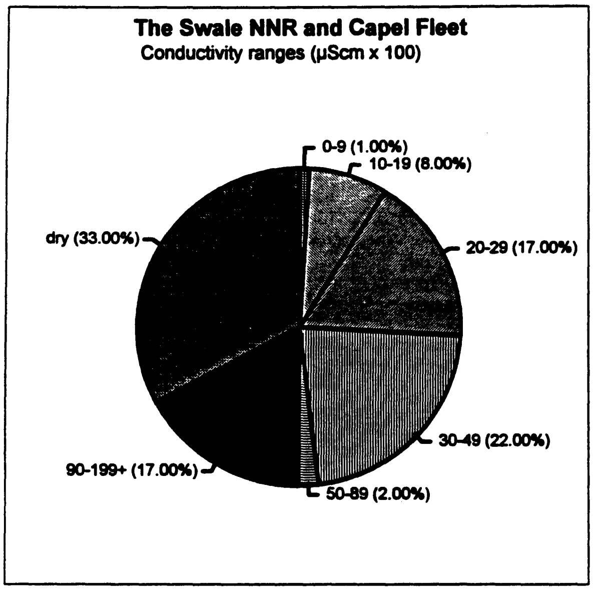

Cliffe & Cooling Marshes
Conductivity ranges (µScm x 100)

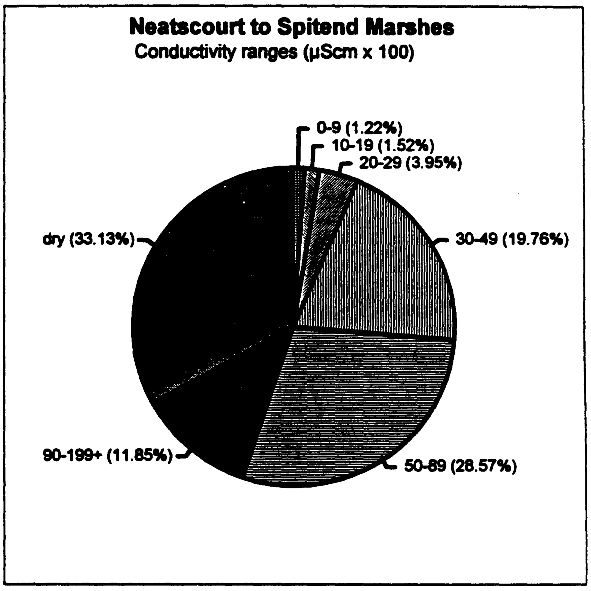

Allhallows and Grain Marshes
Conductivity ranges (µScm x 100)

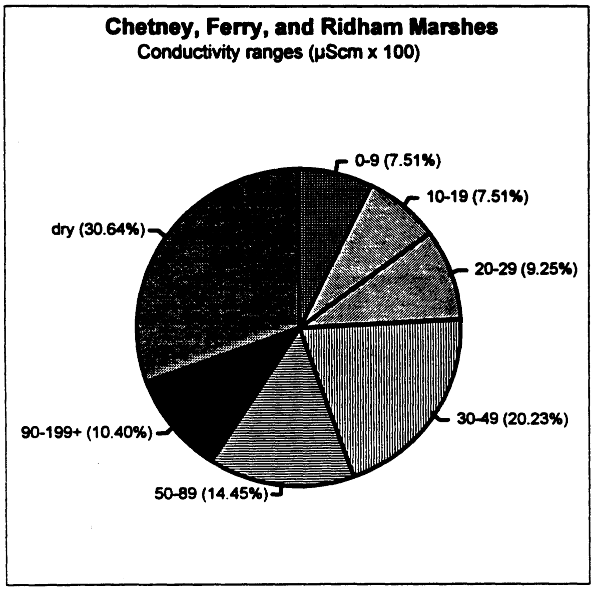
PROPORTION OF DITCHES IN CONDUCTIVITY RANGES FOR EACH AREA

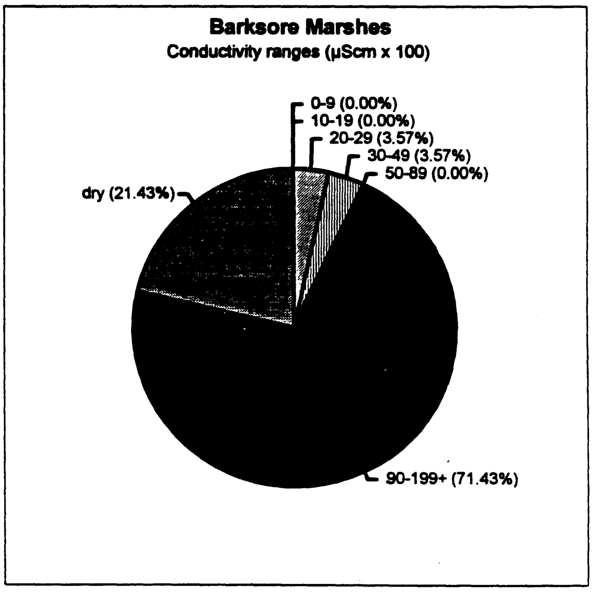

Graveney Marshes and Seasalter Level
Conductivity ranges (μScm x 100)

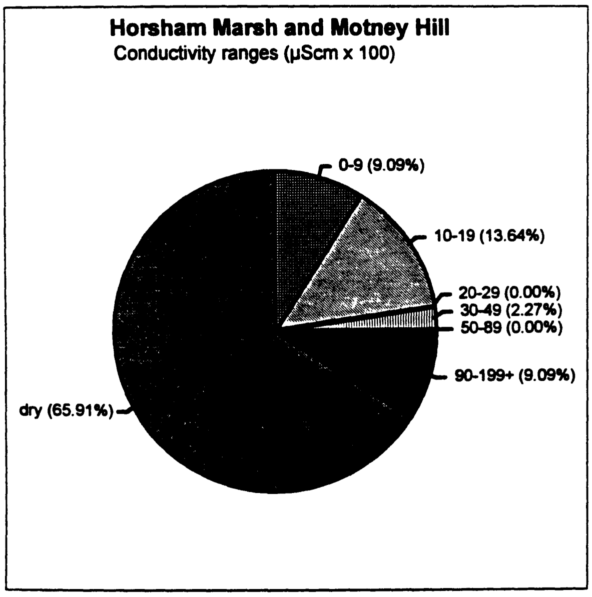

Milton creek to Ham Marshes
Conductivity ranges (μScm x 100)

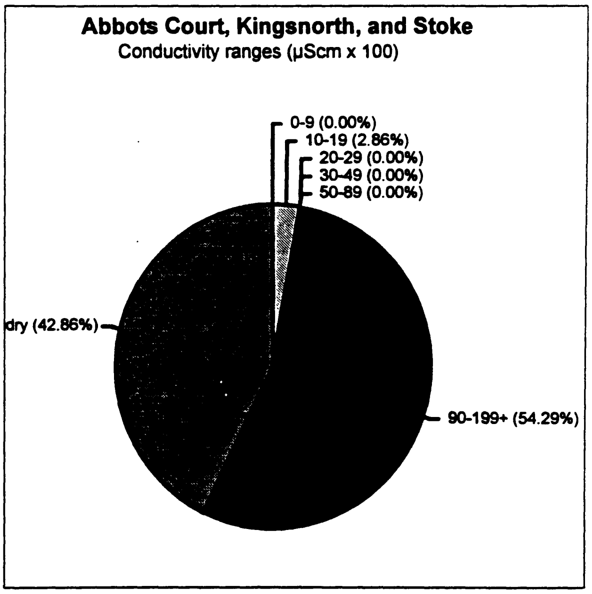

The Swale NNR and Capel Fleet
Conductivity ranges (μScm x 100)


Neatscourt to Spitend Marshes
Conductivity ranges (μScm x 100)

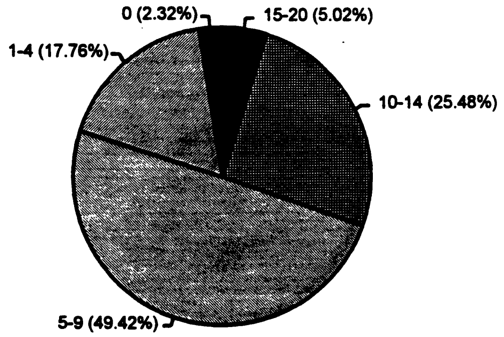

Chetney, Ferry, and Ridham Marshes
Conductivity ranges (μScm x 100)

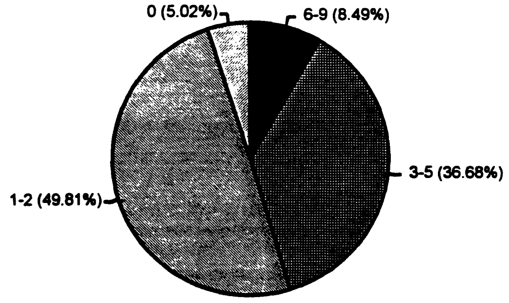

Barksore Marshes
Conductivity ranges (μScm x 100)

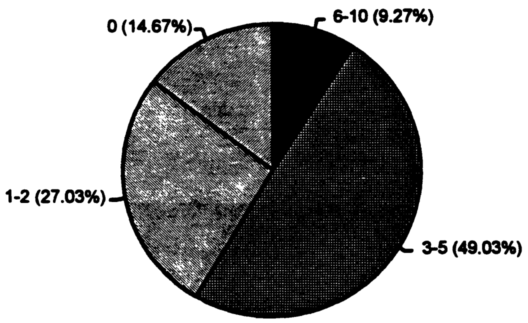

Horsham Marsh and Motney Hill
Conductivity ranges (μScm x 100)
0-9 (9.09%)
10-19 (13.64%)
20-29 (0.00%)
30-49 (2.27%)
50-89 (0.00%)
90-199+ (9.09%)
dry (65.91%)

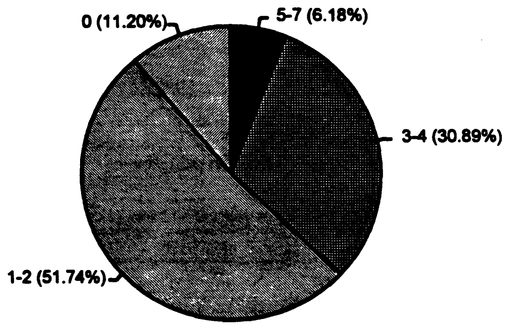

Abbots Court, Kingsnorth, and Stoke
Conductivity ranges (μScm x 100)
0-9 (0.00%)
10-19 (2.86%)
20-29 (0.00%)
30-49 (0.00%)
50-89 (0.00%)
dry (42.86%)
90-199+ (54.29%)

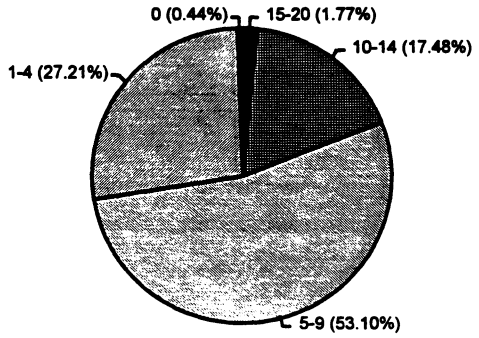
PROPORTION OF DITCHES IN 'NUMBER OF SPECIES' CATEGORIES FOR EACH AREA

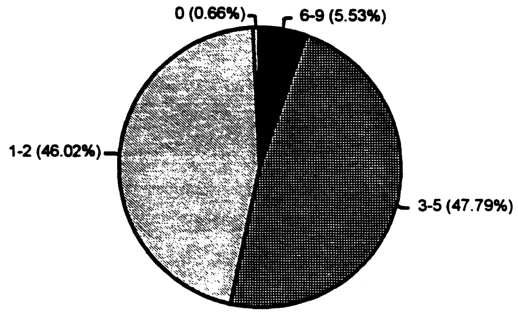

Filborough, Shorne and Higham Marshes
Number of species per 20m

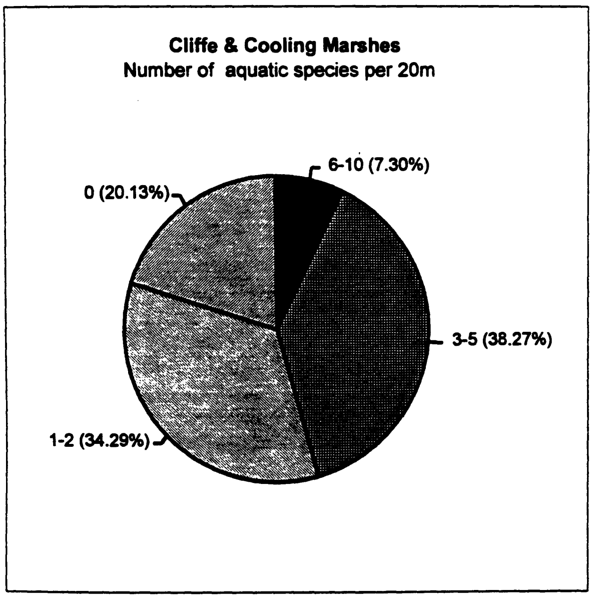

Filborough/Shorne/Higham Marshes
Number of emergent species per 20m


Filborough/Shorne/Higham Marshes
Number of aquatic species per 20m

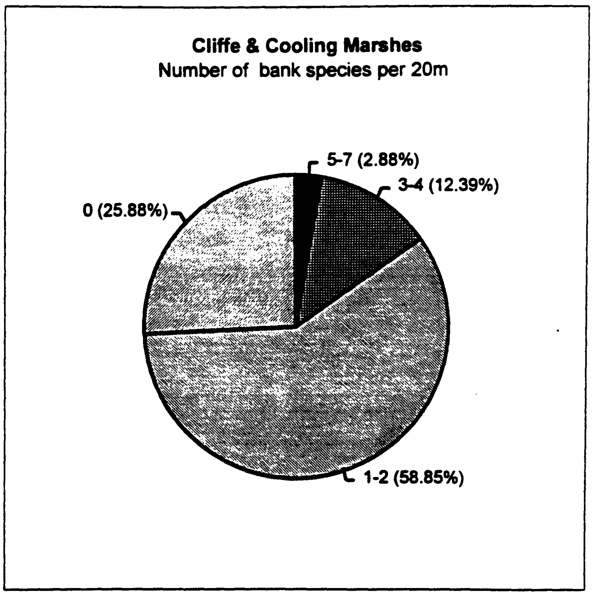

Filborough/Shorne/Higham Marshes
Number of bank species per 20m


Cliffe & Cooling Marshes
Number of species per 20m

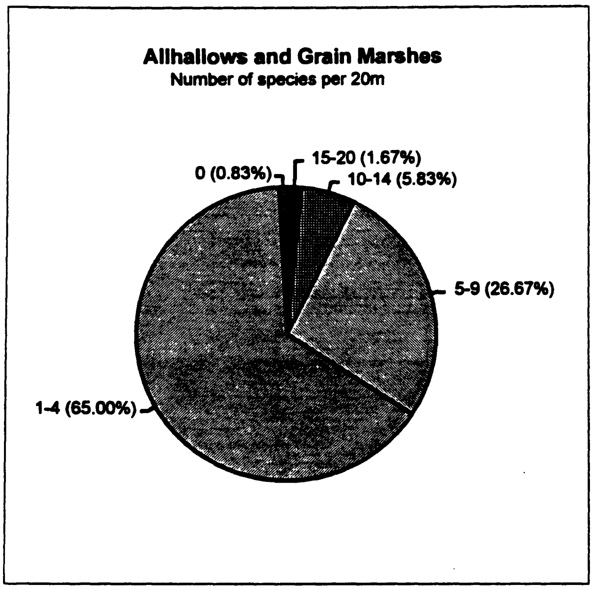

Cliffe & Cooling Marshes
Number of emergent species per 20m



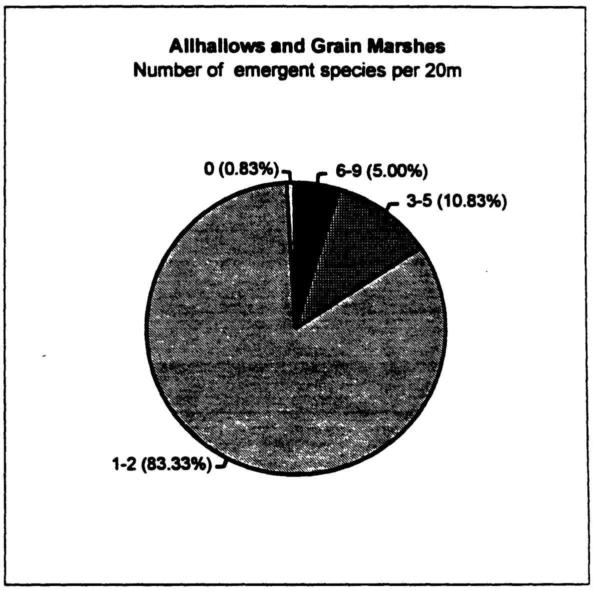
Cliffe & Cooling Marshes
Number of aquatic species per 20m



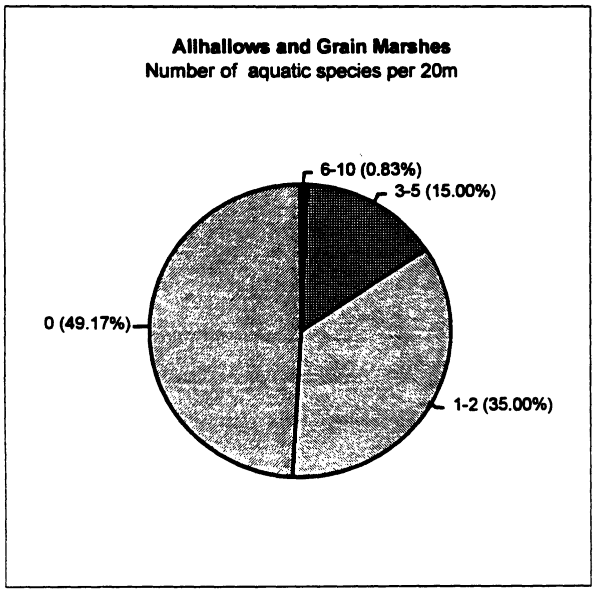
Cliffe & Cooling Marshes
Number of bank species per 20m



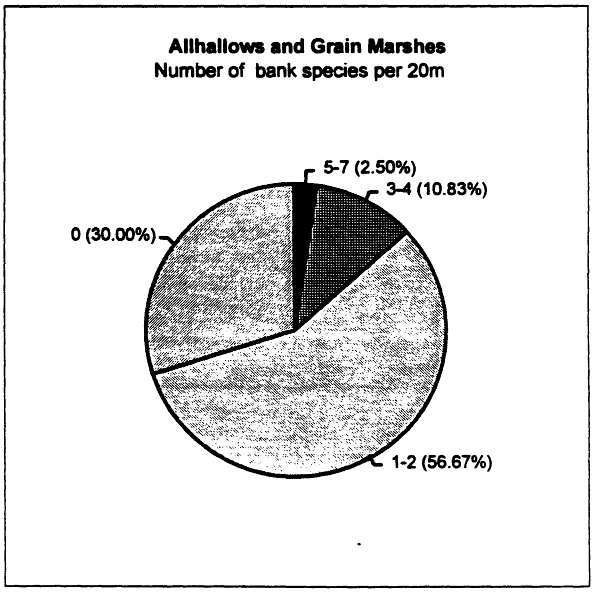
Allhallows and Grain Marshes
Number of species per 20m



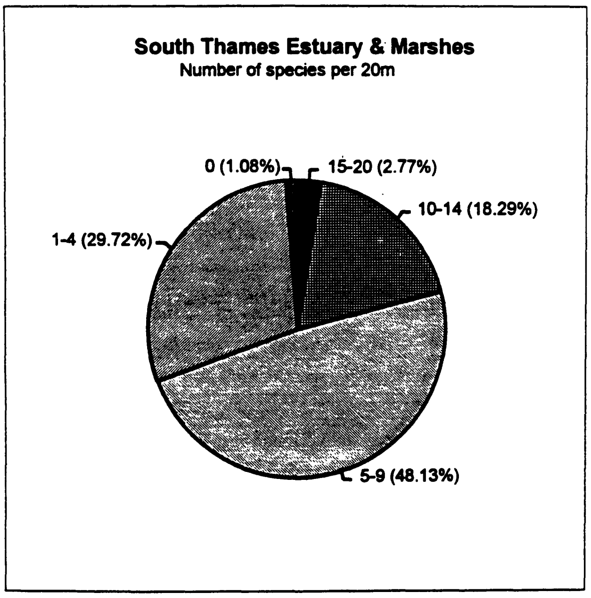
Allhallows and Grain Marshes
Number of emergent species per 20m

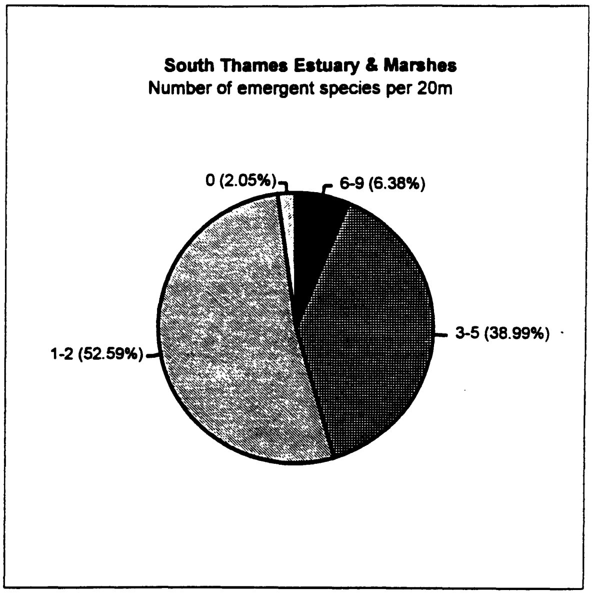


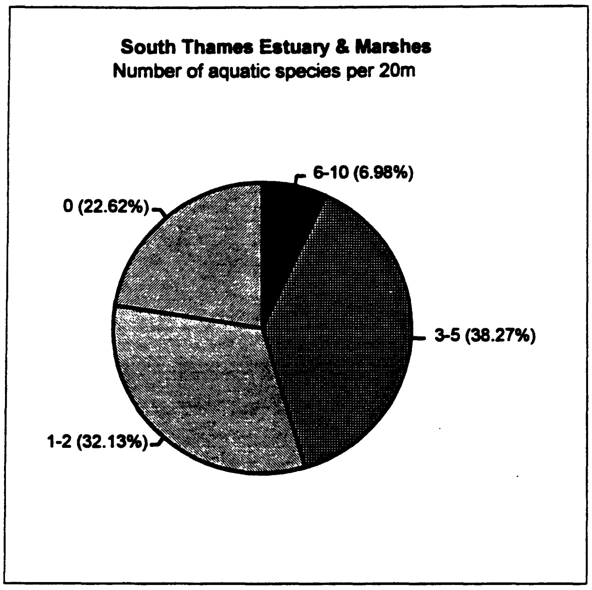
Allhallows and Grain Marshes
Number of aquatic species per 20m

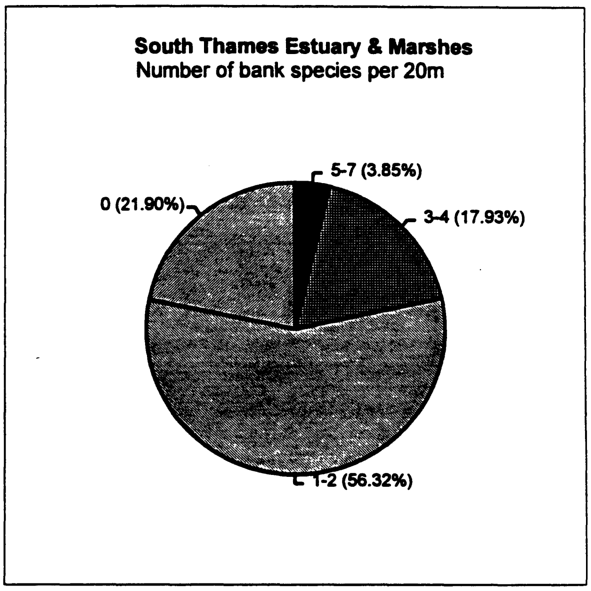


Allhallows and Grain Marshes
Number of bank species per 20m

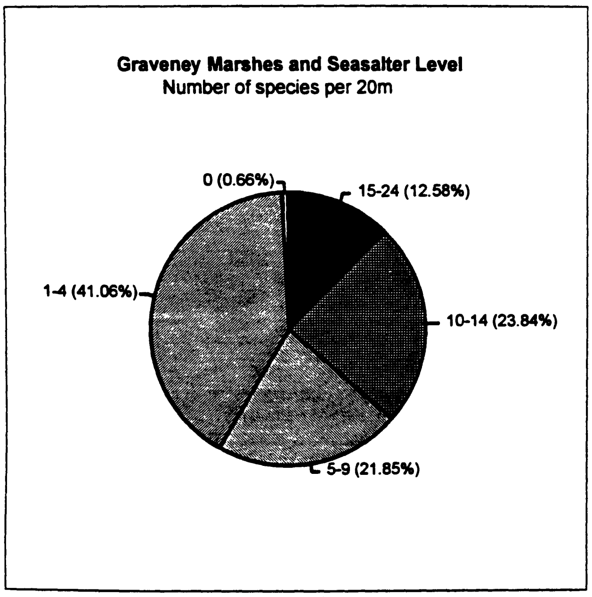

South Thames Estuary & Marshes
Number of species per 20m
0 (1.08%)
15-20 (2.77%)
10-14 (18.29%)
1-4 (29.72%)
5-9 (48.13%)


South Thames Estuary & Marshes
Number of emergent species per 20m
0 (2.05%)
6-9 (6.38%)
3-5 (38.99%)
1-2 (52.59%)

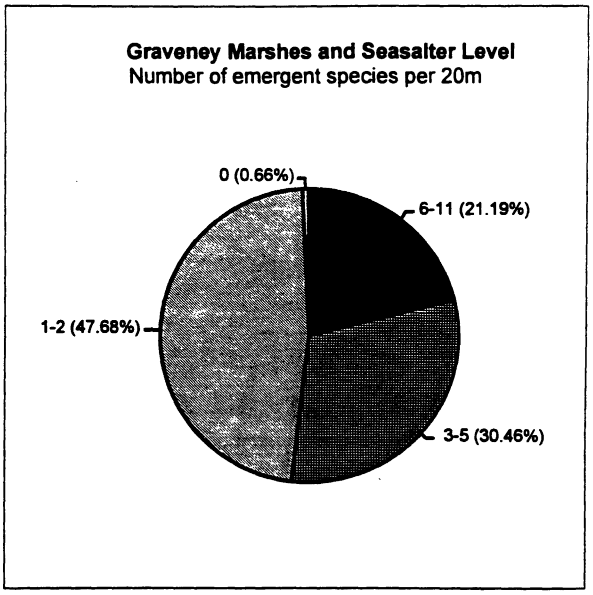

South Thames Estuary & Marshes
Number of aquatic species per 20m
6-10 (6.98%)
0 (22.62%)
3-5 (38.27%)
1-2 (32.13%)


South Thames Estuary & Marshes
Number of bank species per 20m
5-7 (3.85%)
0 (21.90%)
3-4 (17.93%)
1-2 (56.32%)

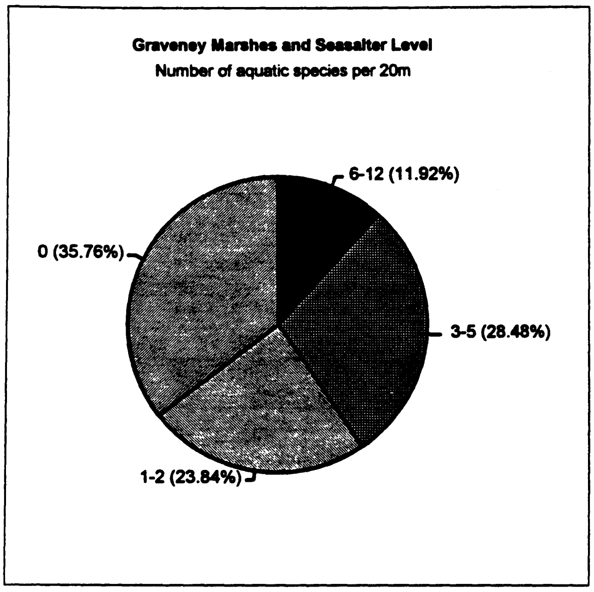
PROPORTION OF DITCHES IN 'NUMBER OF SPECIES' CATEGORIES FOR EACH AREA



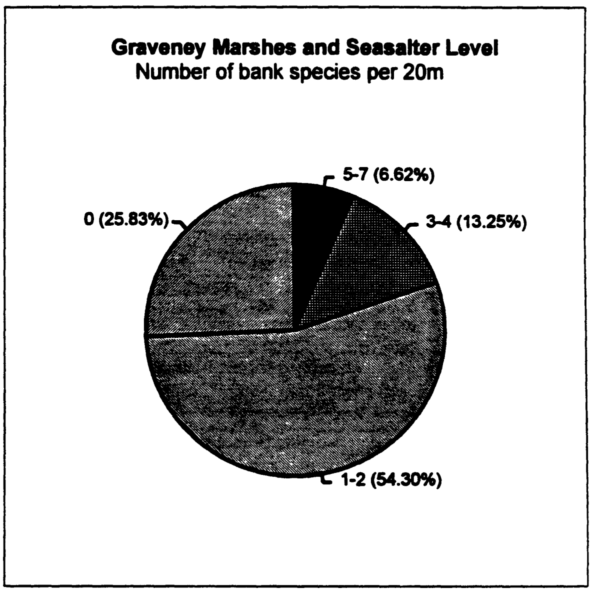
Graveney Marshes and Seasalter Level
Number of species per 20m



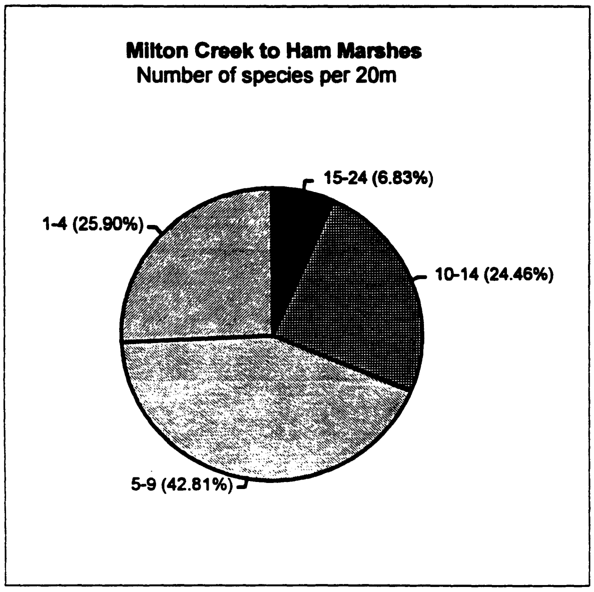
Graveney Marshes and Seasalter Level
Number of emergent species per 20m



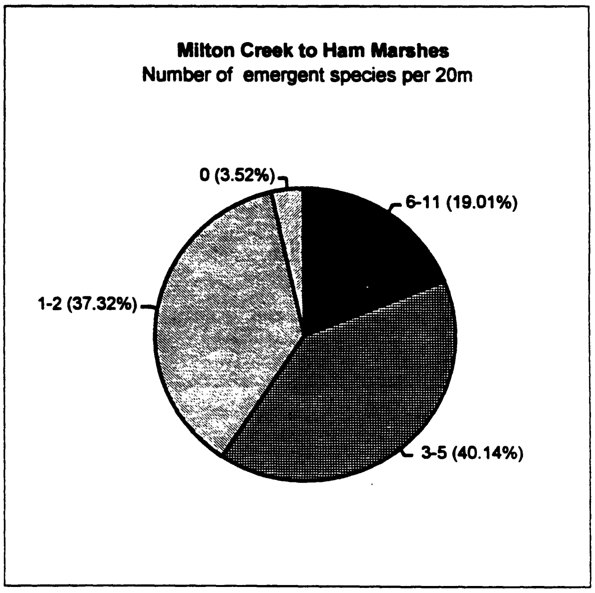
Graveney Marshes and Seasalter Level
Number of aquatic species per 20m



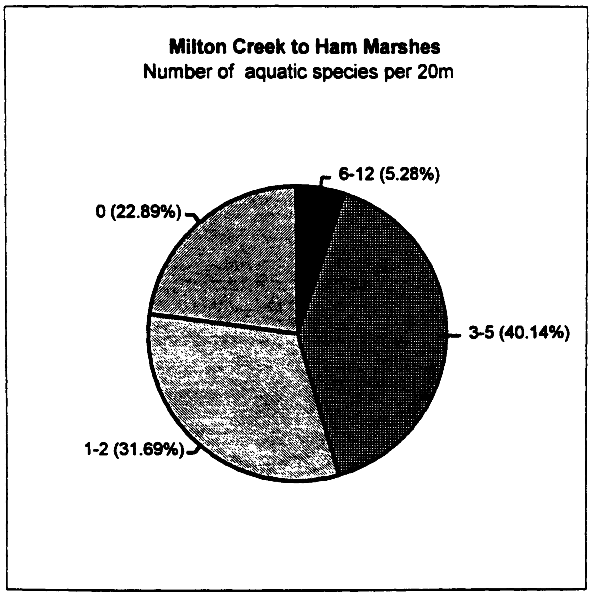
Graveney Marshes and Seasalter Level
Number of bank species per 20m

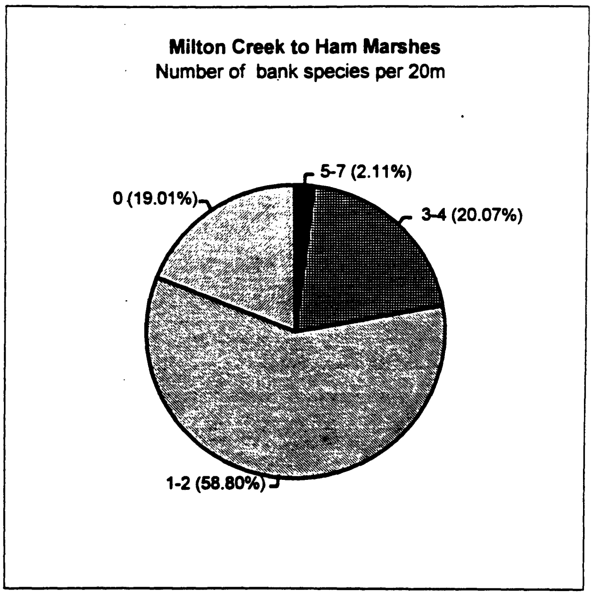


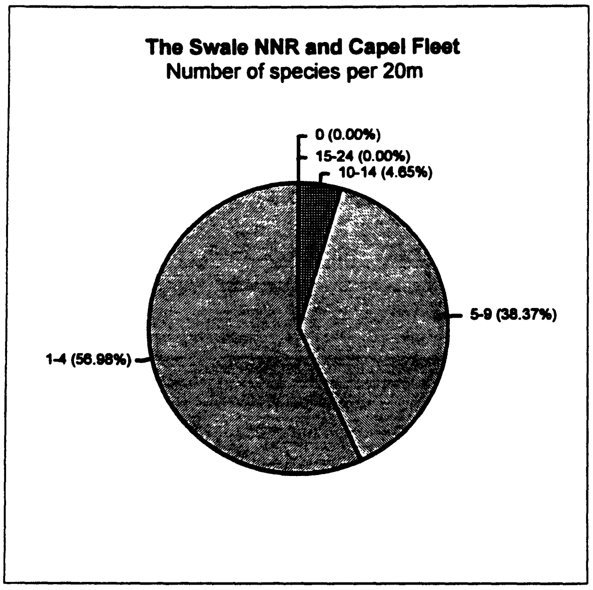
Milton Creek to Ham Marshes
Number of species per 20m

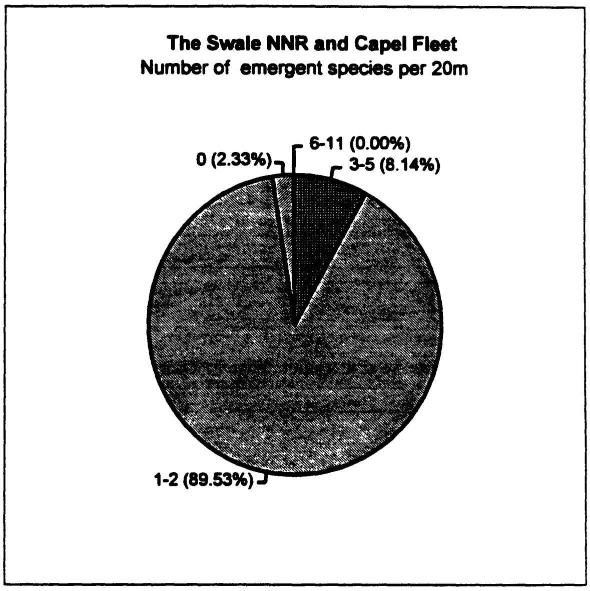


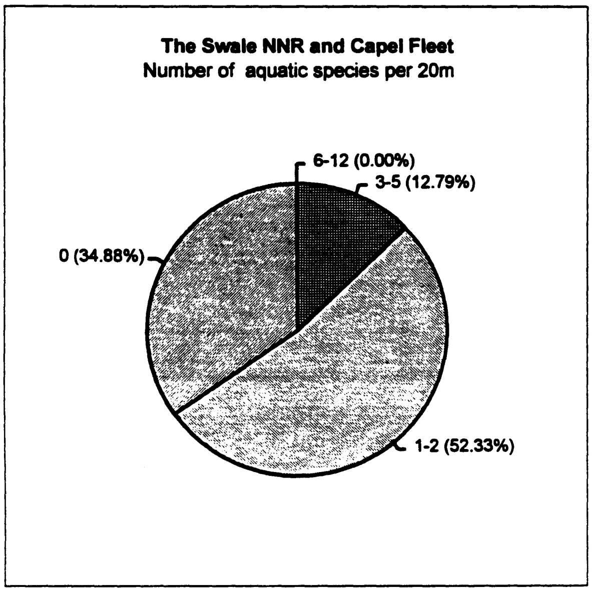
Milton Creek to Ham Marshes
Number of emergent species per 20m

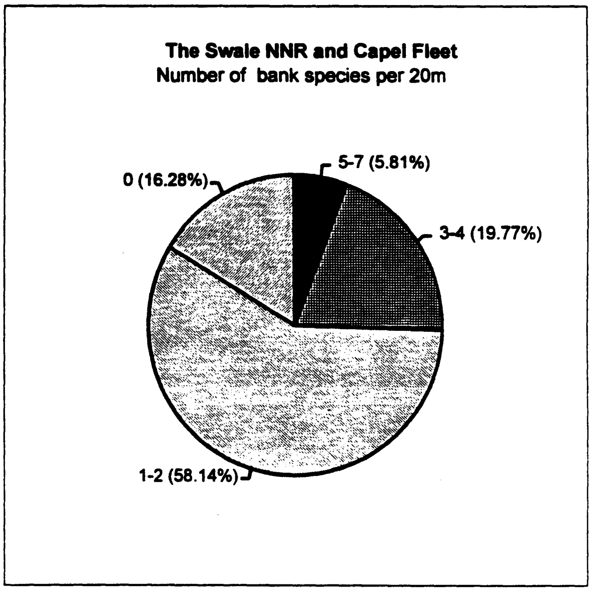

Milton Creek to Ham Marshes
Number of aquatic species per 20m
6-12 (5.28%)
0 (22.89%)
3-5 (40.14%)
1-2 (31.69%)

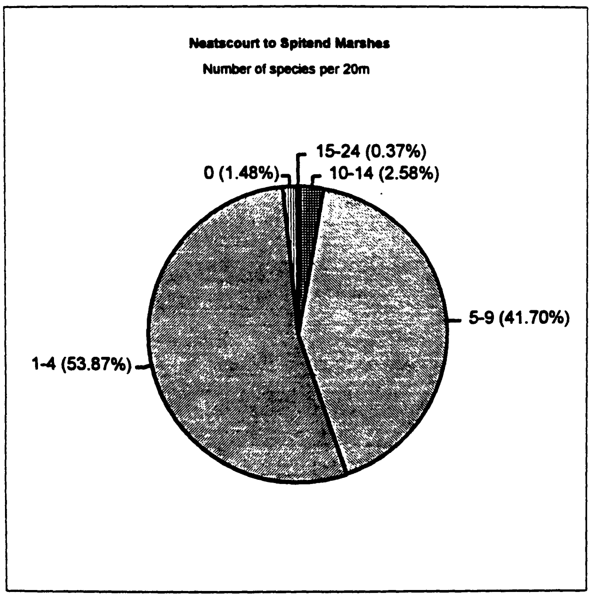

Milton Creek to Ham Marshes
Number of bank species per 20m
5-7 (2.11%)
0 (19.01%)
3-4 (20.07%)
1-2 (58.80%)

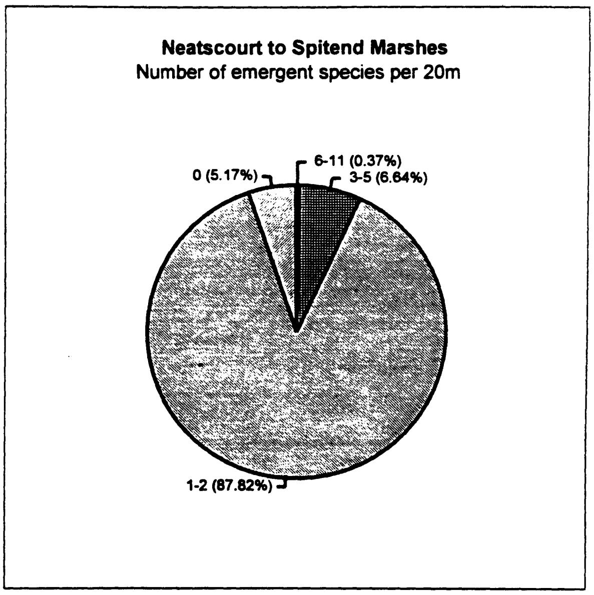

The Swale NNR and Capel Fleet
Number of species per 20m
0 (0.00%)
15-24 (0.00%)
10-14 (4.65%)
5-9 (38.37%)
1-4 (56.98%)

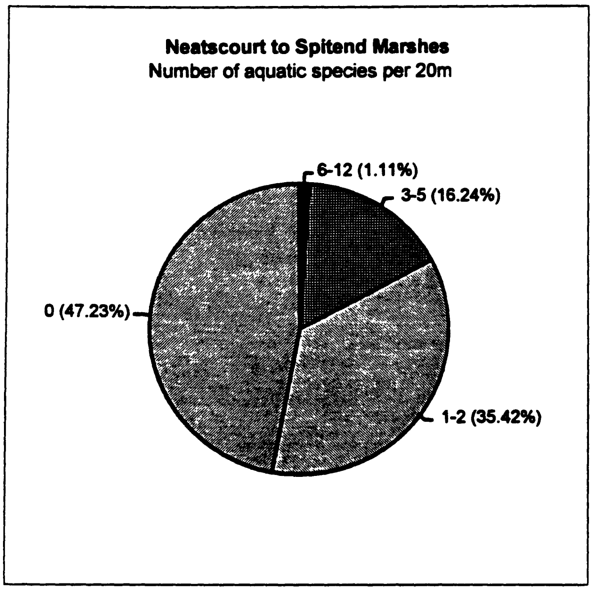

The Swale NNR and Capel Fleet
Number of emergent species per 20m
6-11 (0.00%)
0 (2.33%)
3-5 (8.14%)
1-2 (89.53%)

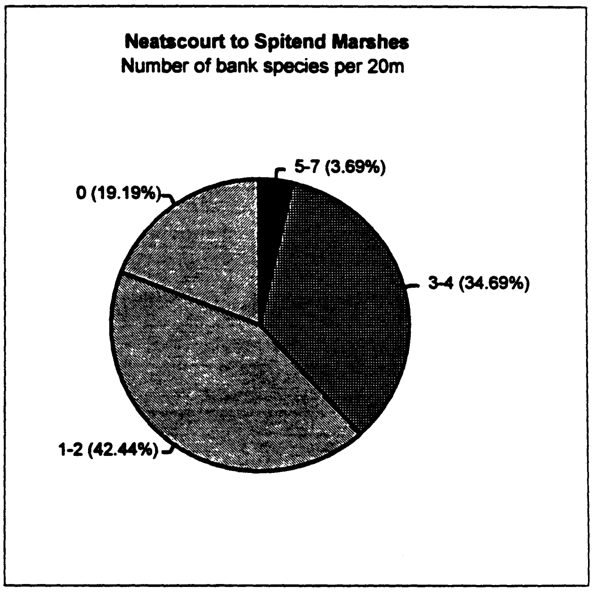

The Swale NNR and Capel Fleet
Number of aquatic species per 20m
6-12 (0.00%)
3-5 (12.79%)
0 (34.88%)
1-2 (52.33%)

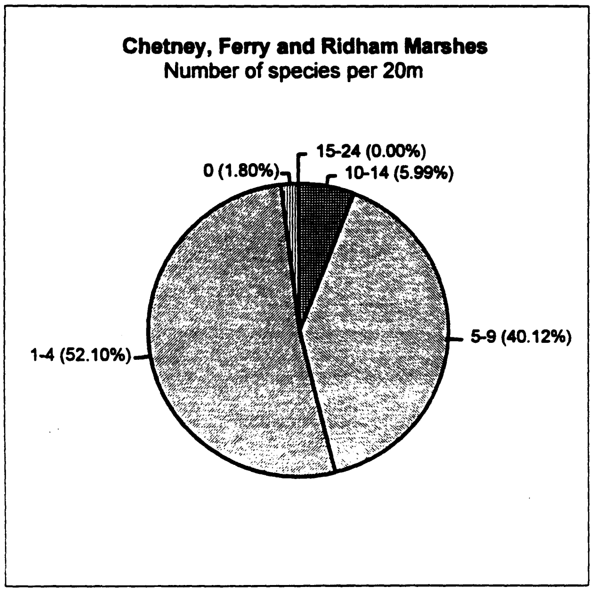

The Swale NNR and Capel Fleet
Number of bank species per 20m
5-7 (5.81%)
0 (16.28%)
3-4 (19.77%)
1-2 (58.14%)

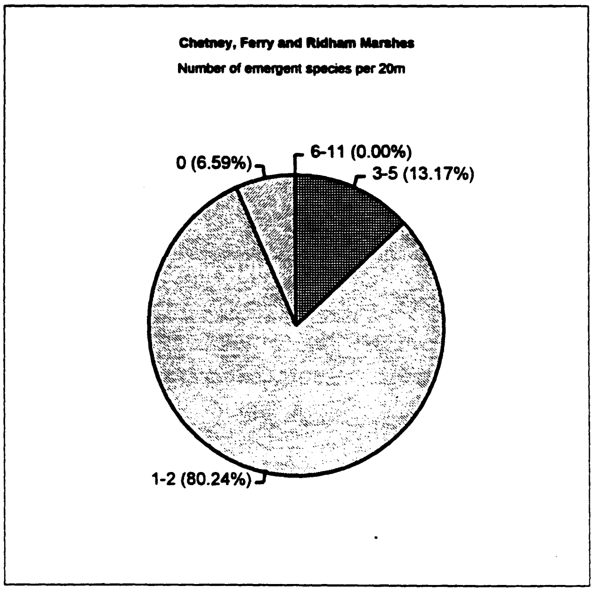

Neatscourt to Spitend Marshes
Number of species per 20m
15-24 (0.37%)
0 (1.48%)
10-14 (2.58%)
5-9 (41.70%)
1-4 (53.87%)

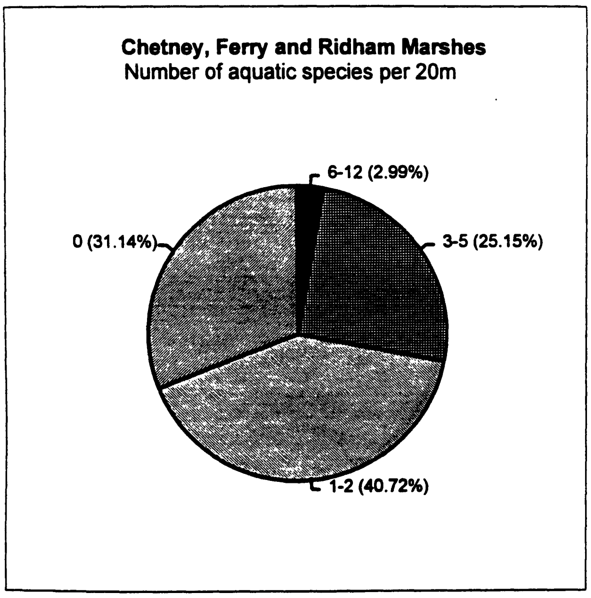

Neatscourt to Spitend Marshes
Number of emergent species per 20m
6-11 (0.37%)
0 (5.17%)
3-5 (6.64%)
1-2 (87.82%)

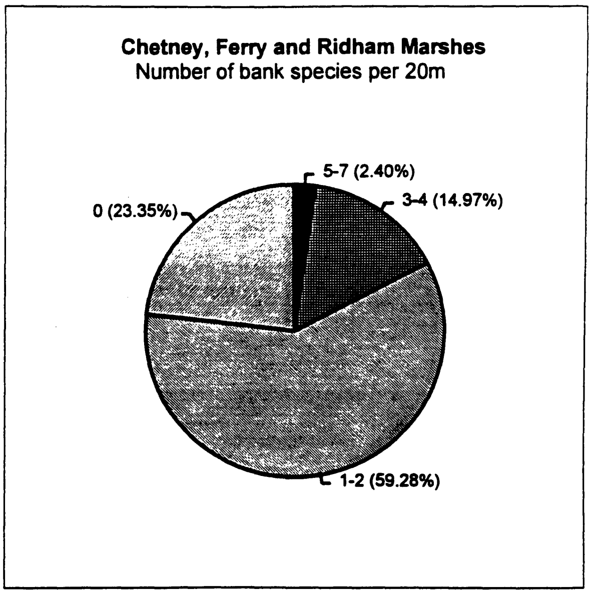

Neatscourt to Spitend Marshes
Number of aquatic species per 20m
6-12 (1.11%)
3-5 (16.24%)
0 (47.23%)
1-2 (35.42%)

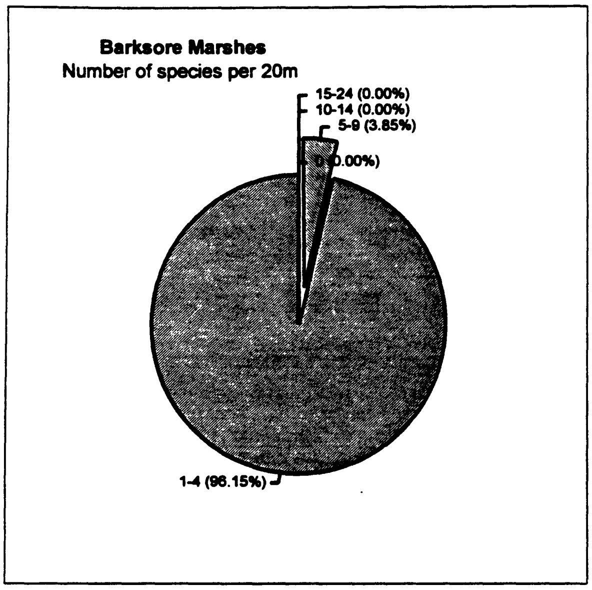

Neatscourt to Spitend Marshes
Number of bank species per 20m
5-7 (3.69%)
0 (19.19%)
3-4 (34.69%)
1-2 (42.44%)

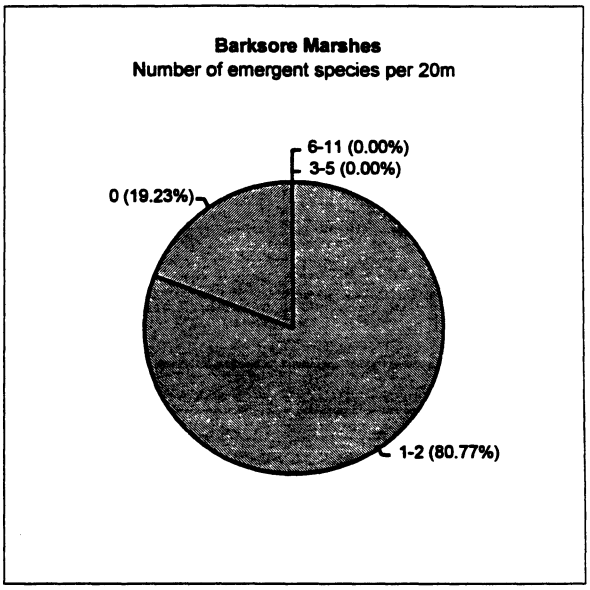

Chetney, Ferry and Ridham Marshes
Number of species per 20m
15-24 (0.00%)
0 (1.80%)
10-14 (5.99%)
5-9 (40.12%)
1-4 (52.10%)

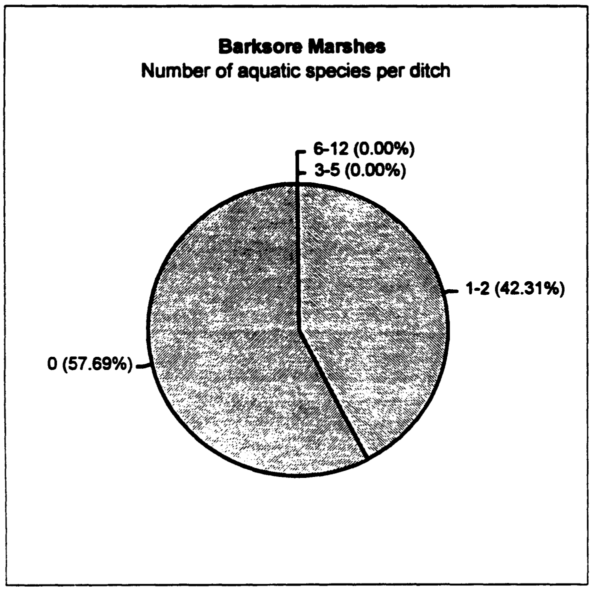

Chetney, Ferry and Ridham Marshes
Number of emergent species per 20m
0 (6.59%)
6-11 (0.00%)
3-5 (13.17%)
1-2 (80.24%)

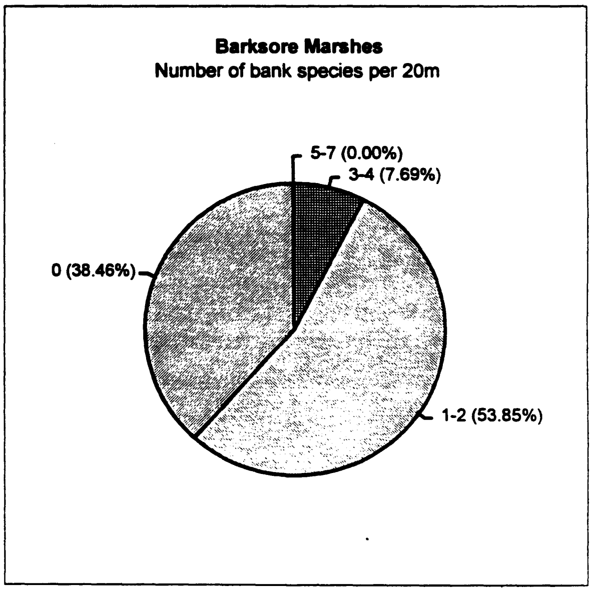

Chetney, Ferry and Ridham Marshes
Number of aquatic species per 20m


Chetney, Ferry and Ridham Marshes
Number of bank species per 20m

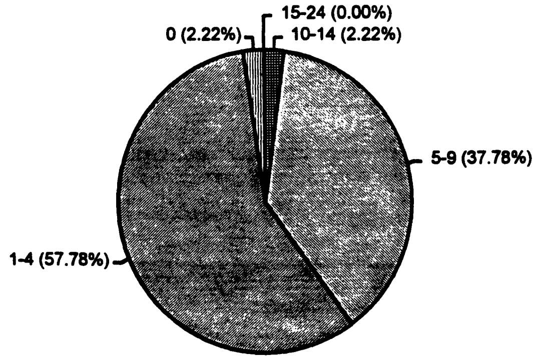

Barksore Marshes
Number of species per 20m


Barksore Marshes
Number of emergent species per 20m

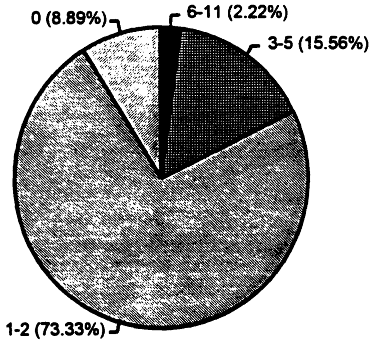

Barksore Marshes
Number of aquatic species per ditch


Barksore Marshes
Number of bank species per 20m

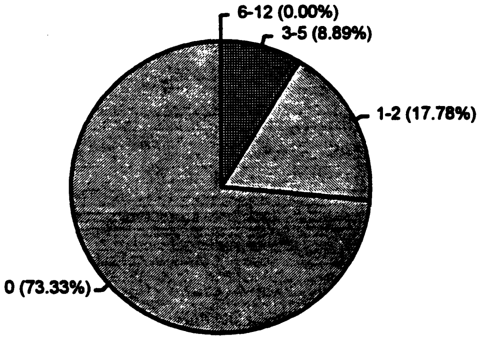
Horsham Marsh and Motney Hill
Number of species per 20m



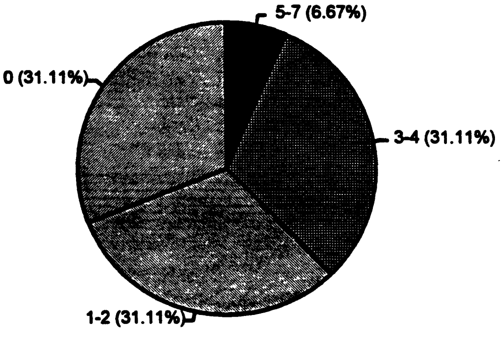
Horsham Marsh and Motney Hill
Number of emergent species per 20m



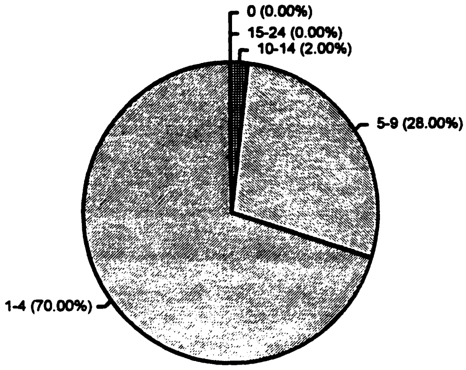
Horsham Marsh and Motney Hill
Number of aquatic species per 20m



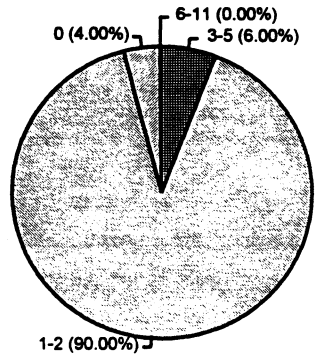
Horsham Marsh and Motney Hill
Number of bank species per 20m



Abbots Court, Kingsnorth and Stoke
Number of species per 20m

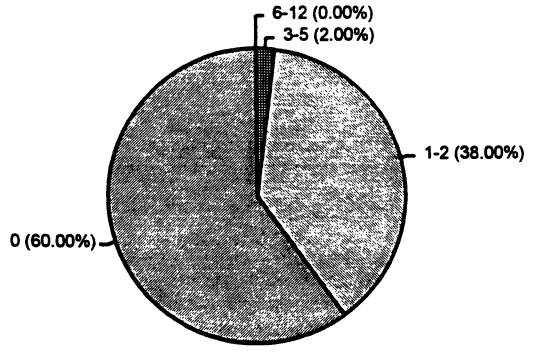


Abbots Court, Kingsnorth and Stoke
Number of emergent species per 20m

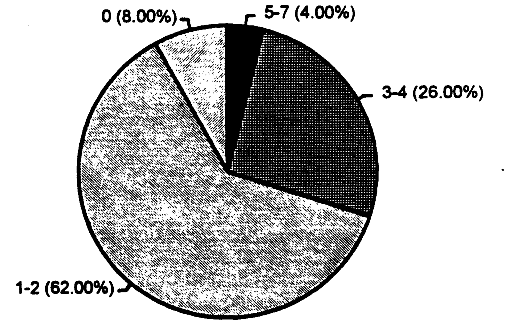


PROPORTION OF DITCHES IN 'NUMBER OF SPECIES' CATEGORIES FOR EACH AREA

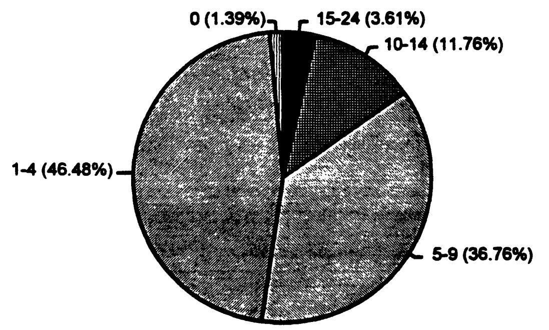
Abbots Court, Kingsnorth and Stoke
Number of aquatic species per 20m



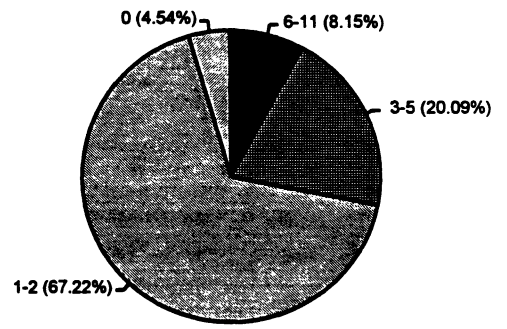
Abbots Court, Kingsnorth and Stoke
Number of bank species per 20m



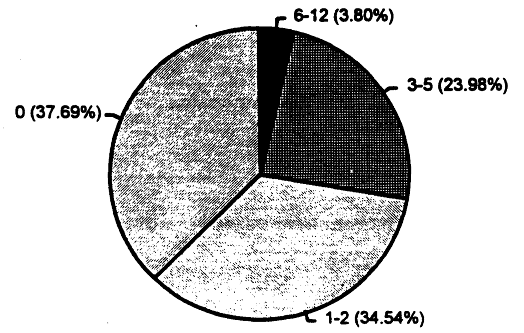
Medway Estuary & Marshes and The Swale
Number of species per 20m



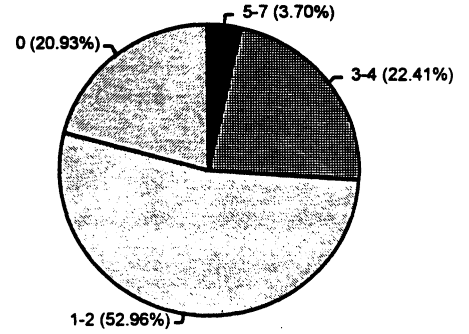
Medway Estuary & Marshes and The Swale
Number of emergent species per 20m



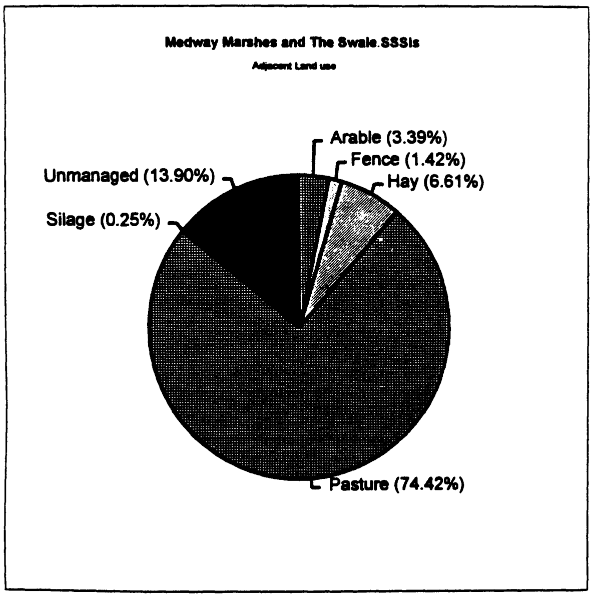
Medway Estuary & Marshes and The Swale
Number of aquatic species per 20m

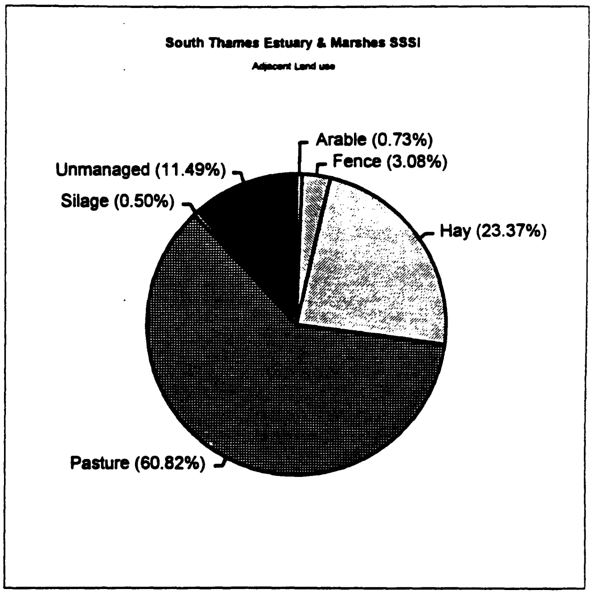


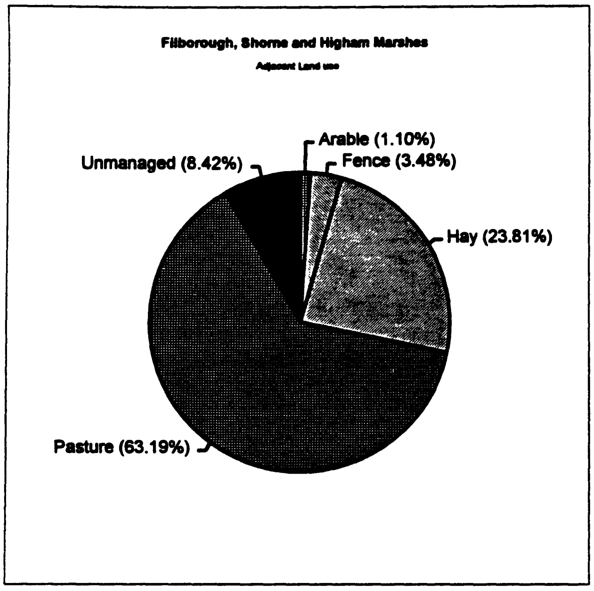
Medway Estuary & Marshes and The Swale
Number of bank species per 20m

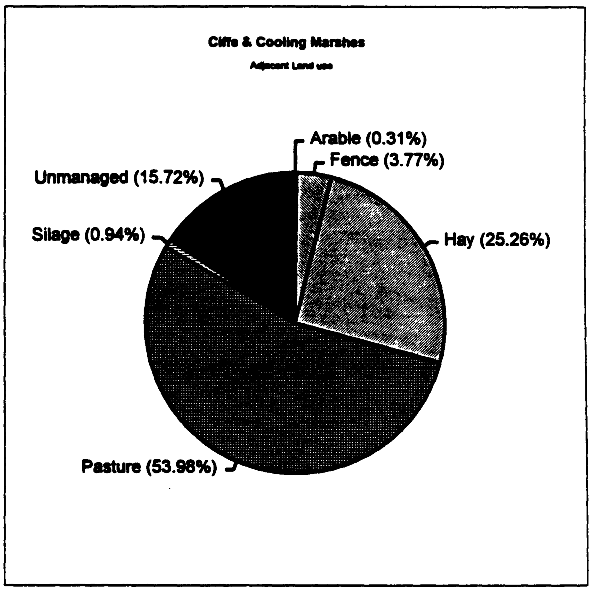


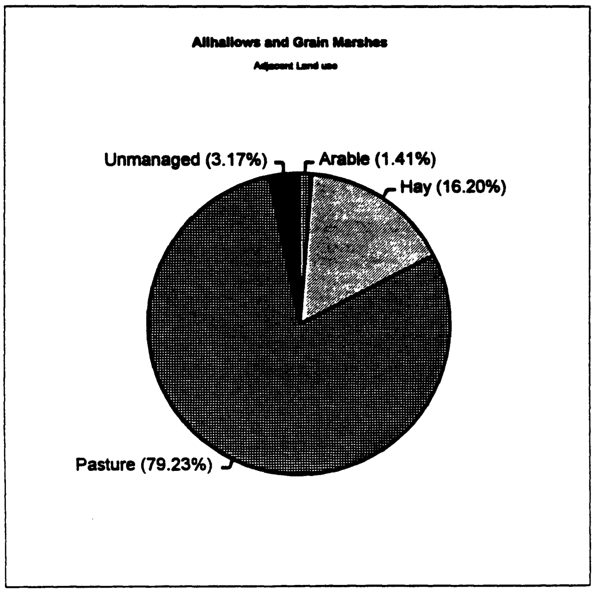
PROPORTION OF DITCHES IN ADJACENT LAND USE CATEGORIES FOR EACH AREA



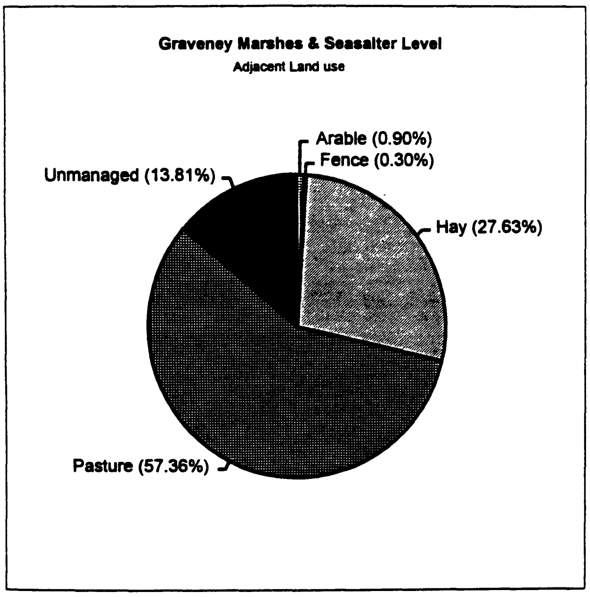


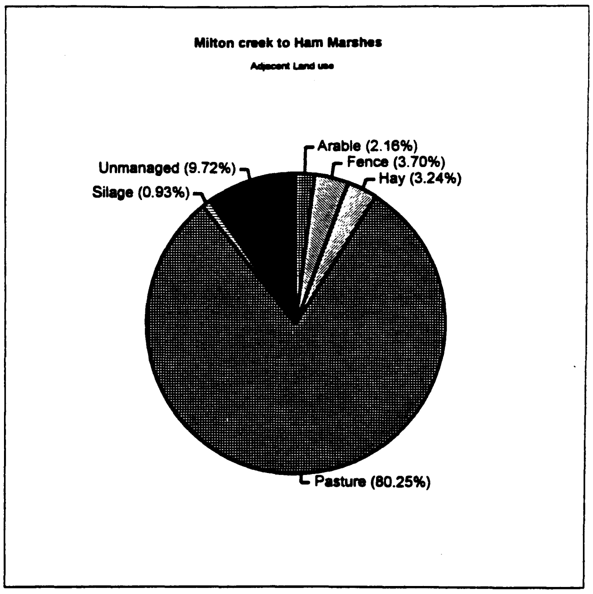


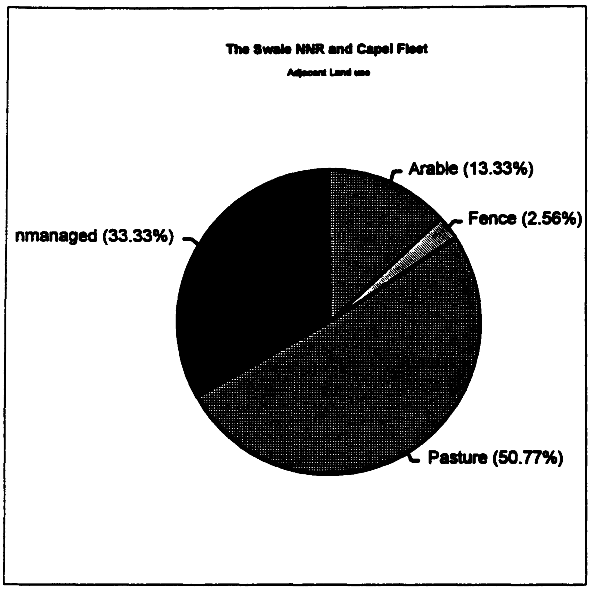


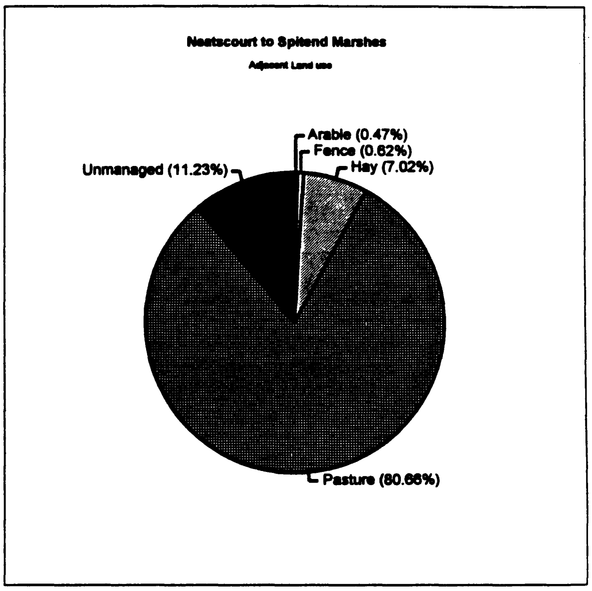


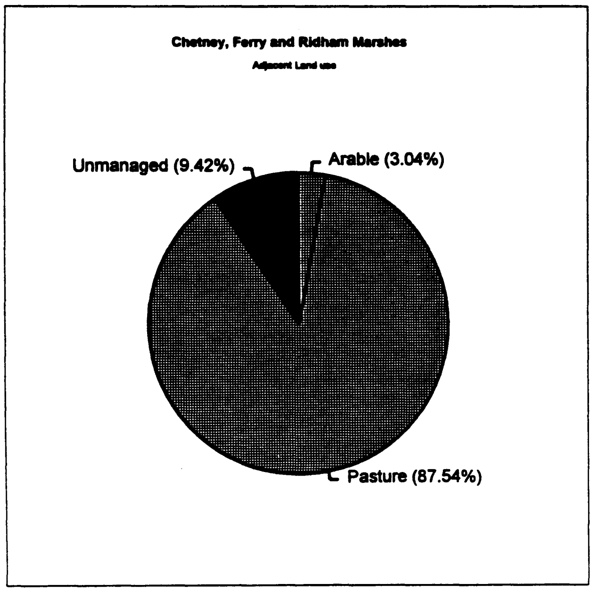
PROPORTION OF DITCHES IN ADJACENT LAND USE CATEGORIES FOR EACH AREA

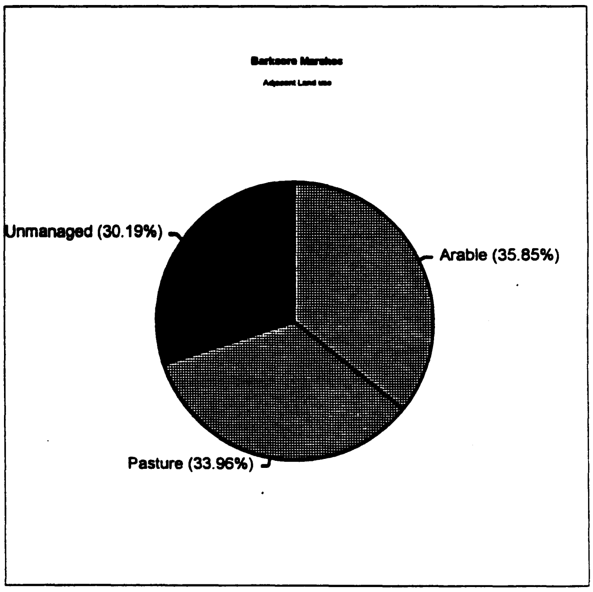




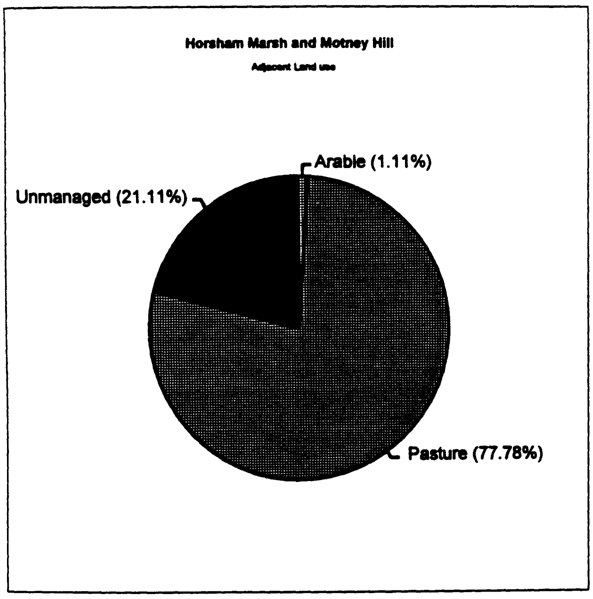








PROPORTION OF DITCHES IN ADJACENT LAND USE CATEGORIES FOR EACH AREA



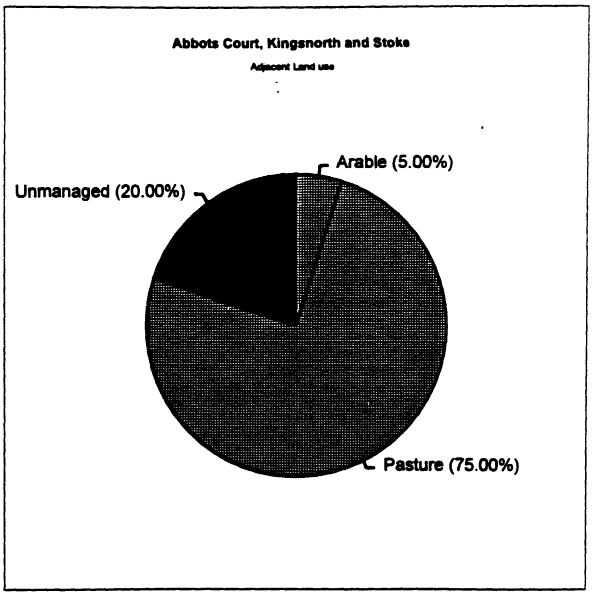


Table 2(a) Percentage frequency of ocurrence of all species

North Kent Marshes SSSIs 1995 survey data (20m samples)

SSSI	M/S	STEM	NKM
Azolla filiculoides	0.8	8.2	4.0
Callitriche obtusangula	11.9	22.0	16.3
Callitriche stagnalis/spp	0.1	0.6	0.3
Ceratophyllum demersum	5.6	3.1	4.6
Ceratophyllum submersum	16.3	31.0	22.7
Chara sp		0.1	0.1
Elodea canadensis	0.5		0.3
Elodea nuttallii	2.3	5.7	3.8
Enteromorpha sp*	11.5	10.0	10.8
Filamentous algae*	28.1	34.9	31.1
Groenlandia densa	0.3		0.2
Hydrocharis morsus-ranae	9.0	2.8	6.3
Lemna gibba	3.7	16.4	9.2
Lemna miniscula	0.3	2.3	1.2
Lemna minor	31.0	42.7	36.1
Lemna trisulca	22.5	47.4	33.3
Myriophyllum aquaticum		0.1	0.1
Myriophyllum spicatum	12.3	5.5	9.4
Myriophyllum verticillatum	0.3		0.2
Nymphaea alba	0.1	0.2	0.2
Nymphoides peltata	0.1		0.1
Potamogeton crispus	1.0	2.0	1.5
Potamogeton natans	0.6		0.4
Potamogeton pectinatus	29.3	21.8	26.0
Potamogeton pusillus/berchtoldii	2.2	2.4	2.3
Ranunculus baudotii	3.0	13.1	7.4
Ranunculus circinatus		0.1	0.1
Ranunculus trichophyllus	0.3	9.3	4.2
Ranunculus seedling	4.0	1.8	3.0
Spirodela polyrhiza	1.6		0.9
Riccia fluitans		0.4	0.2
Stratiotes aloides		0.2	0.1
Utricularia vulgaris	1.9		1.0
Zannichellia palustris	2.4	1.9	2.2
Alisma plantago-aquatica	5.6	6.4	5.9
Apium nodiflorum	8.1	2.6	5.8
Berula erecta	20.5	28.5	24.0
Butomus umbellatus	0.1	1.0	0.5
Carex riparia	4.5	1.0	3.0
Eleocharis palustris	15.6	38.1	25.4
Equisetum fluviatile	3.0	0.2	1.8
Glyceria fluitans	1.0	10.1	5.0
Glyceria maxima	3.3	0.6	2.1
Hippuris vulgaris	0.9	1.9	1.4
Iris pseudacorus	0.1	0.2	0.2
Juncus articulatus	5.6	0.1	3.2
Nasturtium officinale agg	6.9	17.0	11.2
Oenanthe aquatica	0.3	0.2	0.3
Oenanthe fistulosa	4.6	19.3	11.0
Oenanthe silaifolia	0.6		0.3
Phalaris arundinacea	0.5		0.3
Phragmites australis	36.8	21.1	29.9
Ranunculus flammula	0.1		0.1
Ranunculus sceleratus	4.4	10.3	7.0
Rumex hydrolapathum	2.5	4.2	3.2
Sagittaria sagittifolia		0.1	0.1
Scirpus lacustris	8.8	1.2	5.5
Scirpus maritimus	65.9	71.7	68.4
Sparganium erectum	13.7	11.8	12.9
Typha angustifolia	6.1	5.9	6.0
Typha latifolia	3.2	2.9	3.1
Veronica anagallis-aquatica	0.1		0.1
Veronica catenata	2.1	3.9	2.9
Veronica scutellata	0.3		0.2
Grass dom (Agro/Alop)*	3.9	4.5	4.1
Atriplex hastata	16.2	11.7	14.2
Aster tripolium	1.0	0.1	0.6
Carex acuta		0.2	0.1
Carex divisa	14.0	28.6	20.3
Carex otrubae	11.0	30.4	19.5
Carex distans	1.2		0.7
Chenopodium chenopodioides	17.0	1.4	10.3
Chenopodium rubrum	4.7		2.7
Crassula helmsii	0.2	0.4	0.3
Epilobium hirsutum	5.4	3.2	4.4
Eupatorium cannabinum		0.1	0.1
Galium palustre	3.6	4.1	3.8
Glaux maritima	3.8	0.6	2.4
Inula crithmoides	0.1		0.1
Juncus effusus	6.2	2.6	4.7
Juncus inflexus	28.7	41.6	34.3
Juncus gerardii	25.1	6.4	16.9
Juncus maritima	2.1	1.9	2.0
Lycopus europaeus	3.2	5.5	4.2
Lysimachia nummularia	0.1		0.1
Mentha aquatica	3.7	0.4	2.2
Myosotis cespitosa	4.4	3.9	4.1
Myosotis scorpioides	1.0		0.6
Oenanthe lachenalii	0.2	2.5	1.2
Polypogon monspeliensis	1.5	1.7	1.6
Pulicaria dysenterica	4.2	0.4	2.5
Salicornia sp.	1.6	0.1	0.9
Samolus valerandi	0.6	1.9	1.2
Scutellaria galericulata		1.1	0.5
Solanum dulcamara	4.4	11.6	7.5
Spartina anglica	0.1		0.1
Spergularia marina	4.0	0.4	2.4
Spergularia media	0.2	0.1	0.2
Sueda maritima	0.1		0.1
Triglochin maritima	0.1		0.1
Triglochin palustre	0.7	0.6	0.7

Number of aquatic species	27	25	32
Number of emergent species	29	25	30
Number of bank species	33	28	36
Total number of species	89	78	98

Average number of aquatic species	1.6	2.4	2.0
Average number of emergent species	2.2	2.6	2.4
Average number of bank species	1.7	1.6	1.7
Average number of species	5.6	6.6	6.0

*Excluded from totals and averages

M/S = Medway Estuary & Marshes SSSI and The Swale SSSI
STEM = South Thames Estuary & Marshes SSSI

Number of records for all species

SSSI	M/S	STEM	NKM
Azolla filiculoides	9	68	77
Callitriche obtusangula	128	183	311
Callitriche stagnalis/spp	1	5	6
Ceratophyllum demersum	61	26	87
Ceratophyllum submersum	176	258	434
Chara sp		1	1
Elodea canadensis	5		5
Elodea nuttallii	25	47	72
Enteromorpha sp	124	83	207
Filamentous algae	304	290	594
Groenlandiadensa	3		3
Hydrocharis morsus-ranae	97	23	120
Lemna gibba	40	136	176
Lemna miniscula	3	19	22
Lemna minor	335	355	690
Lemna trisulca	243	394	637
Myriophyllum aquaticum		1	1
Myriophyllum spicatum	133	46	179
Myriophyllum verticillatum	3		3
Nymphaea alba	1	2	3
Nymphoides peltata	1		1
Potamogeton crispus	11	17	28
Potamogeton natans	7		7
Potamogeton pectinatus	316	181	497
Potamogeton pusillus/berchtoldii	24	20	44
Ranunculus baudotii	32	109	141
Ranunculus circinatus		1	1
Ranunculus trichophyllus	3	77	80
Ranunculus seedling	43	15	58
Spirodela polyrhiza	17		17
Riccia fluitans		3	3
Stratiotes aloides		2	2
Utricularia vulgaris	20		20
Zannichellia palustris	26	16	42
Alisma plantago-aquatica	60	53	113
Apium nodiflorum	88	22	110
Berula erecta	221	237	458
Butomus umbellatus	1	8	9
Carex riparia	49	8	57
Eleocharis palustris	169	317	486
Equisetum fluviatile	32	2	34
Glyceria fluitans	11	84	95
Glyceria maxima	36	5	41
Hippuris vulgaris	10	16	26
Iris pseudacorus	1	2	3
Juncus articulatus	61	1	62
Nasturtium officinale agg	74	141	215
Oenanthe aquatica	3	2	5
Oenanthe fistulosa	50	160	210
Oenanthe silaifolia	6		6
Phalaris arundinacea	5		5
Phragmites australis	397	175	572
Ranunculus flammula	1		1
Ranunculus sceleratus	48	86	134
Rumex hydrolapathum	27	35	62
Sagittaria sagittifolia		1	1
Scirpus lacustris	95	10	105
Scirpus maritimus	712	596	1308
Sparganium erectum	148	98	246
Typha angustifolia	66	49	115
Typha latifolia	35	24	59
Veronica anagallis-aquatica	1		1
Veronica catenata	23	32	55
Veronica scutellata	3		3
Grass dom (Agro/Alop)	42	37	79
Atriplex hastata	175	97	272
Aster tripolium	11	1	12
Carex acuta		2	2
Carex divisa	151	238	389
Carex otrubae	119	253	372
Carex distans	13		13
Chenopodium chenopodioides	184	12	196
Chenopodium rubrum	51		51
Crassula helmsii	2	3	5
Epilobium hirsutum	58	27	85
Eupatorium cannabinum		1	1
Galium palustre	39	34	73
Glaux maritima	41	5	46
Inula crithmoides	1		1
Juncus effusus	67	22	89
Juncus inflexus	310	346	656
Juncus gerardii	271	53	324
Juncus maritima	23	16	39
Lycopus europaeus	35	46	81
Lysimachia nummularia	1		1
Mentha aquatica	40	3	43
Myosotis cespitosa	47	32	79
Myosotis scorpioides	11		11
Oenanthe lachenalii	2	21	23
Polypogon monspeliensis	16	14	30
Pulicaria dysenterica	45	3	48
Salicornia sp.	17	1	18
Samolus valerandi	7	16	23
Scutellaria galericulata		9	9
Solanum dulcamara	48	96	144
Spartina anglica	1		1
Spergularia marina	43	3	46
Spergularia media	2	1	3
Sueda maritima	1		1
Triglochin maritima	1		1
Triglochin palustre	8	5	13
Total number of ditches	1080	832	1912

Table 2(b) Percentage frequency of occurrence of species in order of decreasing abundance

North Kent Marshes SSSIs 1995 survey data (20m samples)

Aquatic species	M/S	STEM	**NKM**
Lemna minor	31.0	42.7	**36.1**
Lemna trisulca	22.5	47.4	**33.3**
Filamentous algae	28.1	34.9	**31.1**
Potamogeton pectinatus	29.3	21.8	**26.0**
Ceratophyllum submersum	16.3	31.0	**22.7**
Callitriche obtusangula	11.9	22.0	**16.3**
Enteromorpha sp	11.5	10.0	**10.8**
Myriophyllum spicatum	12.3	5.5	**9.4**
Lemna gibba	3.7	16.4	**9.2**
Ranunculus baudotii	3.0	13.1	**7.4**
Hydrocharis morsus-ranae	9.0	2.8	**6.3**
Ceratophyllum demersum	5.6	3.1	**4.6**
Ranunculus trichophyllus	0.3	9.3	**4.2**
Azolla filiculoides	0.8	8.2	**4.0**
Elodea nuttallii	2.3	5.7	**3.8**
Ranunculus seedling	4.0	1.8	**3.0**
Potamogeton pusillus/berchtoldii	2.2	2.4	**2.3**
Zannichellia palustris	2.4	1.9	**2.2**
Potamogeton crispus	1.0	2.0	**1.5**
Lemna miniscula	0.3	2.3	**1.2**
Utricularia vulgaris	1.9		**1.0**
Spirodela polyrhiza	1.6		**0.9**
Potamogeton natans	0.6		**0.4**
Callitriche stagnalis/spp	0.1	0.6	**0.3**
Elodea canadensis	0.5		**0.3**
Riccia fluitans		0.4	**0.2**
Myriophyllum verticillatum	0.3		**0.2**
Groenlandia densa	0.3		**0.2**
Nymphaea alba	0.1	0.2	**0.2**
Stratiotes aloides		0.2	**0.1**
Myriophyllum aquaticum		0.1	**0.1**
Chara sp		0.1	**0.1**
Ranunculus circinatus		0.1	**0.1**
Nymphoides peltata	0.1		**0.1**
Number of aquatic species	27	25	32

Emergent species	M/S	STEM	**NKM**
Scirpus maritimus	65.9	71.7	**68.4**
Phragmites australis	36.8	21.1	**29.9**
Eleocharis palustris	15.6	38.1	**25.4**
Berula erecta	20.5	28.5	**24.0**
Sparganium erectum	13.7	11.8	**12.9**
Nasturtium officinale agg	6.9	17.0	**11.2**
Oenanthe fistulosa	4.6	19.3	**11.0**
Ranunculus sceleratus	4.4	10.3	**7.0**
Typha angustifolia	6.1	5.9	**6.0**
Alisma plantago-aquatica	5.6	6.4	**5.9**
Apium nodiflorum	8.1	2.6	**5.8**
Scirpus lacustris	8.8	1.2	**5.5**
Glyceria fluitans	1.0	10.1	**5.0**
Rumex hydrolapathum	2.5	4.2	**3.2**
Juncus articulatus	5.6	0.1	**3.2**
Typha latifolia	3.2	2.9	**3.1**
Carex riparia	4.5	1.0	**3.0**
Veronica catenata	2.1	3.9	**2.9**
Glyceria maxima	3.3	0.6	**2.1**
Equisetum fluviatile	3.0	0.2	**1.8**
Hippuris vulgaris	0.9	1.9	**1.4**
Butomus umbellatus	0.1	1.0	**0.5**
Oenanthe silaifolia	0.6		**0.3**
Oenanthe aquatica	0.3	0.2	**0.3**
Phalaris arundinacea	0.5		**0.3**
Iris pseudacorus	0.1	0.2	**0.2**
Veronica scutellata	0.3		**0.2**
Veronica anagallis-aquatica	0.1		**0.1**
Ranunculus flammula	0.1		**0.1**
Sagittaria sagittifolia		0.1	**0.1**
Number of emergent species	29	25	30

Bank species	M/S	STEM	**NKM**
Juncus inflexus	28.7	41.6	**34.3**
Carex divisa	14.0	28.6	**20.3**
Carex otrubae	11.0	30.4	**19.5**
Juncus gerardii	25.1	6.4	**16.9**
Atriplex hastata	16.2	11.7	**14.2**
Chenopodium chenopodioides	17.0	1.4	**10.3**
Solanum dulcamara	4.4	11.6	**7.5**
Juncus effusus	6.2	2.6	**4.7**
Epilobium hirsutum	5.4	3.2	**4.4**
Lycopus europaeus	3.2	5.5	**4.2**
Grass dom (Agro/Alop)	3.9	4.5	**4.1**
Myosotis cespitosa	4.4	3.9	**4.1**
Galium palustre	3.6	4.1	**3.8**
Chenopodium rubrum	4.7		**2.7**
Pulicaria dysenterica	4.2	0.4	**2.5**
Spergularia marina	4.0	0.4	**2.4**
Glaux maritima	3.8	0.6	**2.4**
Mentha aquatica	3.7	0.4	**2.2**
Juncus maritima	2.1	1.9	**2.0**
Polypogon monspeliensis	1.5	1.7	**1.6**
Oenanthe lachenalii	0.2	2.5	**1.2**
Samolus valerandi	0.6	1.9	**1.2**
Salicornia sp.	1.6	0.1	**0.9**
Triglochin palustre	0.7	0.6	**0.7**
Carex distans	1.2		**0.7**
Aster tripolium	1.0	0.1	**0.6**
Myosotis scorpioides	1.0		**0.6**
Scutellaria galericulata		1.1	**0.5**
Crassula helmsii	0.2	0.4	**0.3**
Spergularia media	0.2	0.1	**0.2**
Carex acuta		0.2	**0.1**
Triglochin maritima	0.1		**0.1**
Sueda maritima	0.1		**0.1**
Lysimachia nummularia	0.1		**0.1**
Inula crithmoides	0.1		**0.1**
Eupatorium cannabinum		0.1	**0.1**
Spartina anglica	0.1		**0.1**
Number of bank species	33	28	36

M/S = Medway Estuary & Marshes SSSI and The Swale SSSI
STEM = South Thames Estuary & Marshes SSSI

Table 2(c) Frequency of occurrence of species
North Kent Marshes 1993 survey data (20m samples)

Species	Total	%
Azolla filiculoides	7	1.6
Callitriche obtusangula	41	9.1
Callitriche stagnalis	21	4.7
Ceratophyllum demersum	14	3.1
Ceratophyllum submersum	126	28.1
Chara sp	3	0.7
Elodea canadensis	2	0.4
Elodea nuttallii	2	0.4
Hydrocharis morsus-ranae	19	4.2
Lemna gibba	28	6.2
Lemna minor	122	27.2
Lemna trisulca	123	27.4
Myriophyllum spicatum	64	14.3
Myriophyllum verticillatum	1	0.2
Potamogeton crispus	4	0.9
Potamogeton pectinatus	156	34.7
Potamogeton pusillus	10	2.2
Ranunculus baudotii	107	23.8
Spirodela polyrhiza	6	1.3
Zannichellia palustris	25	5.6
Alisma plantago-aquatica	19	4.2
Apium nodiflorum	42	9.4
Berula erecta	52	11.6
Eleocharis palustris	125	27.8
Eleocharis uniglumis	1	0.2
Equisetum fluviatile	1	0.2
Glyceria fluitans	16	3.6
Glyceria maxima	14	3.1
Hippuris vulgaris	12	2.7
Nasturtium officinale	50	11.1
Oenanthe crocata	1	0.2
Oenanthe fistulosa	51	11.4
Phragmites australis	143	31.8
Ranunculus sceleratus	10	2.2
Rumex hydrolapathum	7	1.6
Scirpus lacustris lacustris	2	0.4
Scirpus lacustris tabernaemonti	45	10.0
Scirpus maritimus	357	79.5
Sparganium erectum	47	10.5
Typha angustifolia	34	7.6
Typha latifolia	3	0.7
Veronica anagallis-aquatica	2	0.4
Veronica catenata	29	6.5
Agrostis stolonifera	81	18.0
Aster tripolium	6	1.3
Lycopus europaeus	4	0.9
Mentha aquatica	6	1.3
Myosotis scorpioides	8	1.8
Oenanthe lachenalii	3	0.7
Rumex maritimus	2	0.4

	total	avg
Number of aquatic species	20	1.7
Number of emergent species	23	0.5
Number of bank species	7	1.7
Total number of species	50	4.5

Species in order of decreasing abundance

Aquatic species	Total	%
Potamogeton pectinatus	156	34.7
Ceratophyllum submersum	126	28.1
Lemna trisulca	123	27.4
Lemna minor	122	27.2
Ranunculus baudotii	107	23.8
Myriophyllum spicatum	64	14.3
Callitriche obtusangula	41	9.1
Lemna gibba	28	6.2
Zannichellia palustris	25	5.6
Callitriche stagnalis	21	4.7
Hydrocharis morsus-ranae	19	4.2
Ceratophyllum demersum	14	3.1
Potamogeton pusillus	10	2.2
Azolla filiculoides	7	1.6
Spirodela polyrhiza	6	1.3
Potamogeton crispus	4	0.9
Chara sp	3	0.7
Elodea canadensis	2	0.4
Elodea nuttallii	2	0.4
Myriophyllum verticillatum	1	0.2
Total number of species	20	

Bank species	Total	%
Agrostis stolonifera	81	18.0
Myosotis scorpioides	8	1.8
Mentha aquatica	6	1.3
Aster tripolium	6	1.3
Lycopus europaeus	4	0.9
Oenanthe lachenalii	3	0.7
Rumex maritimus	2	0.4
Total number of species	18	

Emergent species	Total	%
Scirpus maritimus	357	79.5
Phragmites australis	143	31.8
Eleocharis palustris	125	27.8
Berula erecta	52	11.6
Oenanthe fistulosa	51	11.4
Nasturtium officinale	50	11.1
Sparganium erectum	47	10.5
Scirpus lacustris tabernaemonti	45	10.0
Apium nodiflorum	42	9.4
Typha angustifolia	34	7.6
Veronica catenata	29	6.5
Alisma plantago-aquatica	19	4.2
Glyceria fluitans	16	3.6
Glyceria maxima	14	3.1
Hippuris vulgaris	12	2.7
Ranunculus sceleratus	10	2.2
Rumex hydrolapathum	7	1.6
Typha latifolia	3	0.7
Veronica anagallis-aquatica	2	0.4
Scirpus lacustris lacustris	2	0.4
Equisetum fluviatile	1	0.2
Eleocharis uniglumis	1	0.2
Oenanthe crocata	1	0.2
Total number of species	20	

Table 3 South Thames Estuary & Marshes SSSI
Percentage frequency of occurence of species in three main areas

Area	STEM 1	STEM 2	STEM 3	TOTAL
Number of ditches	259	452	120	831
Azolla filiculoides	5.4	11.9		8.2
Callitriche obtusangula	28.2	22.1	8.3	22.0
Callitriche stagnalis/spp	1.9			0.6
Ceratophyllum demersum	8.9	0.7		3.1
Ceratophyllum submersum	21.2	41.8	11.7	31.0
Chara sp	0.4			0.1
Elodea nuttallii	18.1			5.7
Enteromorpha sp*	17.8	6.6	5.8	10.0
Filamentous algae*	19.3	46.5	25.0	34.9
Hydrocharis morsus-ranae	8.9			2.8
Lemna gibba	22.4	15.0	8.3	16.4
Lemna miniscula	6.6		1.7	2.3
Lemna minor	65.6	35.2	21.7	42.7
Lemna trisulca	59.8	49.6	12.5	47.4
Myriophyllum aquaticum	0.4			0.1
Myriophyllum spicatum	3.1	7.7	2.5	5.5
Nymphaea alba	0.4	0.2		0.2
Potamogeton crispus	4.6	0.9	0.8	2.0
Potamogeton pectinatus	8.1	30.5	18.3	21.8
Potamogeton pusillus/berchtoldii	6.9	0.2	0.8	2.4
Ranunculus baudotii	13.1	14.8	6.7	13.1
Ranunculus circinatus	0.4			0.1
Ranunculus trichophyllus	1.5	15.5	2.5	9.3
Ranunculus seedling	2.3		7.5	1.8
Riccia fluitans	1.2			0.4
Stratiotes aloides	0.8			0.2
Zannichellia palustris	3.1	0.4	5.0	1.9
Alisma plantago-aquatica	6.9	6.4	5.0	6.4
Apium nodiflorum	1.2	2.4	6.7	2.6
Berula erecta	43.6	26.3	4.2	28.5
Butomus umbellatus	2.7		0.8	1.0
Carex riparia	2.7		0.8	1.0
Eleocharis palustris	27.0	52.4	8.3	38.1
Equisetum fluviatile		0.2	0.8	0.2
Glyceria fluitans	18.9	6.4	5.0	10.1
Glyceria maxima	1.9			0.6
Hippuris vulgaris		3.5		1.9
Iris pseudacorus	0.8			0.2
Juncus articulatus			0.8	0.1
Nasturtium officinale agg	19.3	18.6	5.8	17.0
Oenanthe aquatica		0.4		0.2
Oenanthe fistulosa	1.5	33.6	3.3	19.3
Phragmites australis	29.7	17.9	14.2	21.1
Ranunculus sceleratus	17.8	6.9	7.5	10.3
Rumex hydrolapathum	13.5			4.2
Sagittaria sagittifolia	0.4			0.1
Scirpus lacustris	0.4	2.0		1.2
Scirpus maritimus	43.6	81.6	95.0	71.7
Sparganium erectum	22.4	7.7	4.2	11.8
Typha angustifolia	3.9	8.2	1.7	5.9
Typha latifolia	4.2	1.8	4.2	2.9
Veronica catenata	0.4	6.4	1.7	3.9
Grass dom (Agro/Alop)*	2.7	2.2	16.7	4.5
Atriplex hastata	3.9	10.6	32.5	11.7
Aster tripolium		0.2		0.1
Carex acuta	0.8			0.2
Carex divisa	34.0	31.6	5.8	28.6
Carex otrubae	45.6	27.9	7.5	30.4
Chenopodium chenopodioides	1.2	0.2	6.7	1.4
Crassula helmsii	0.4	0.4		0.4
Epilobium hirsutum	5.4	2.2	2.5	3.2
Eupatorium cannabinum	0.4			0.1
Galium palustre	7.7	2.9	0.8	4.1
Glaux maritima			4.2	0.6
Juncus effusus	5.0	2.0		2.6
Juncus inflexus	68.3	32.7	17.5	41.6
Juncus gerardii	2.3	5.1	20.0	6.4
Juncus maritima	1.9		9.2	1.9
Lycopus europaeus	9.7	3.1	5.8	5.5
Mentha aquatica	0.8		0.8	0.4
Myosotis cespitosa	9.7	1.3	0.8	3.9
Oenanthe lachenalii	6.6	0.2	2.5	2.5
Polypogon monspeliensis		0.2	10.8	1.7
Pulicaria dysenterica	0.4	0.4		0.4
Salicornia sp			0.8	0.1
Samolus valerandi	2.3	2.2		1.9
Scutellaria galericulata	3.5			1.1
Solanum dulcamara	8.9	15.5	2.5	11.6
Spergularia marina	0.4		1.7	0.4
Spergularia media			0.8	0.1
Triglochin palustre	1.9			0.6
Scrub cover (1-3)	40.7	13.2	6.9	20.5
Ditch choked	9.9	14.8	10.3	12.6
Ditch dry	17.9	19.8	44.8	23.2

Average number of aquatics	2.9	2.5	1.1	2.4
Average number of emergents	2.6	2.8	1.7	2.6
Average number of bank species	2.2	1.4	1.3	1.6
Average number of all species	7.8	6.7	4.1	6.6

Total number of aquatics	25	15	14	25
Total number of emergents	21	18	18	25
Total number of bank species	23	18	19	28
Total number of all species	69	51	51	78

* Excluded from totals and averages

Areas
STEM 1 = Filborough, Shorne, and Higham Marshes
STEM 2 = Cliffe and Cooling Marshes
STEM 3 = Allhallows Marshes, Grain Marsh

Number of species categories
Number of ditches in each size class (see pie graphs)

Number of aquatic species

Size class	STEM 1	STEM 2	STEM 3	TOTAL
6-10	24	33	1	58
3-5	127	173	18	318
1-2	70	155	42	267
0	38	91	59	188

Number of emergent species

Size class	STEM 1	STEM 2	STEM 3	TOTAL
6-9	22	25	6	53
3-5	95	216	13	324
1-2	129	208	100	437
0	13	3	1	17

Number of bank species

Size class	STEM 1	STEM 2	STEM 3	TOTAL
5-7	16	13	3	32
3-4	80	56	13	149
1-2	134	266	68	468
0	29	117	36	182

Total number of species

Size class	STEM 1	STEM 2	STEM 3	TOTAL
15-20	13	8	2	23
10-14	66	79	7	152
5-9	128	240	32	400
1-4	46	123	78	247
0	6	2	1	9

Table 4 Medway Estuary & Marshes and The Swale SSSIs

Percentage frequency of occurence of species in eight areas

Area	MS 1	MS 2	MS 3	MS 4	MS 5	MS 6	MS 7	MS 8	TOTAL
Number of ditches	151	284	86	271	167	26	45	50	1080
Azolla filiculoides		0.4		1.1	3.0				0.8
Callitriche obtusangula	13.2	18.0	9.3	5.5	16.2		15.6		11.9
Callitriche stagnalis/spp					0.6				0.1
Ceratophyllum demersum	29.1	4.2		0.7			6.7		5.6
Ceratophyllum submersum	3.3	22.9	16.3	18.1	24.0		4.4	2.0	16.3
Elodea canadensis	0.7	1.4							0.5
Elodea nuttallii	11.9	2.5							2.3
Enteromorpha sp*	6.6	18.0	14.0	9.6	12.0		4.4	6.0	11.5
Filamentous algae*	29.8	48.9	36.0	15.5	25.1		8.9	2.0	28.1
Groenlandia densa		1.1							0.3
Hydrocharis morsus-ranae	37.7	14.1							9.0
Lemna gibba	9.3	2.5		2.2	7.8				3.7
Lemna miniscula	1.3				0.6				0.3
Lemna minor	49.7	62.0	9.3	14.8	16.8		15.6	2.0	31.0
Lemna trisulca	32.5	44.4	4.7	11.4	15.6		13.3	2.0	22.5
Myriophyllum spicatum	6.0	11.3	45.3	10.3	13.8			4.0	12.3
Myriophyllum verticillatum		1.1							0.3
Nymphaea alba			1.2						0.1
Nymphoides peltata								2.0	0.1
Potamogeton crispus		2.5			2.4				1.0
Potamogeton natans	1.3	1.8							0.6
Potamogeton pectinatus	14.6	28.9	17.4	37.3	40.1	42.3		36.0	29.3
Potamogeton pusillus/berchtoldii	2.0	6.7		0.7					2.2
Ranunculus baudotii		2.1	4.7	2.2	9.6				3.0
Ranunculus trichophyllus			1.2	0.7					0.3
Ranunculus seedling	0.7	4.2		3.3	12.6				4.0
Spirodela polyrhiza	11.3								1.6
Utricularia vulgaris	7.9	2.8							1.9
Zannichellia palustris	0.7	2.1	5.8	1.8	5.4				2.4
Alisma plantago-aquatica	9.9	11.3	1.2	1.8	1.8		8.9		5.6
Apium nodiflorum	9.9	22.9			4.8				8.1
Berula erecta	49.0	48.2		0.4			20.0		20.5
Butomus umbellatus		0.4							0.1
Carex riparia	13.9	9.5					2.2		4.5
Eleocharis palustris	23.8	25.0	8.1	12.9	11.4		2.2		15.6
Equisetum fluviatile	13.9	3.5			0.6				3.0
Glyceria fluitans	0.7	1.4			3.6				1.0
Glyceria maxima		12.3		0.4					3.3
Hippuris vulgaris		3.2	1.2						0.9
Iris pseudacorus								2.0	0.1
Juncus articulatus	19.2	10.2		0.4			4.4		5.6
Nasturtium officinale agg	11.3	18.0		0.7	2.4				6.9
Oenanthe aquatica	2.0								0.3
Oenanthe fistulosa	13.9	9.5			1.2				4.6
Oenanthe silaifolia	4.0								0.6
Phalaris arundinacea	2.6		1.2						0.5
Phragmites australis	88.1	49.3	18.6	15.9	9.6	15.4	62.2	34.0	36.8
Ranunculus flammula			1.2						0.1
Ranunculus sceleratus	4.6	7.0		2.6	8.4				4.4
Rumex hydrolapathum	3.3	5.6			3.6				2.5
Scirpus lacustris	6.6	19.0	7.0	6.3			2.2	14.0	8.8
Scirpus maritimus	31.8	47.9	95.3	85.2	82.6	73.1	31.1	88.0	65.9
Sparganium erectum	29.1	26.8	10.5	1.1	6.0		13.3		13.7
Typha angustifolia	2.0	9.2	10.5	4.4	7.8		2.2	4.0	6.1
Typha latifolia	3.3	5.6			2.4		17.8	4.0	3.2
Veronica anagallis-aquatica		0.4							0.1
Veronica catenata		4.9	2.3	1.5	1.8				2.1
Veronica scutellata		1.1							0.3
Grass dom (Agro/Alop)*	2.6	3.5		5.9	11.4		15.6	4.0	3.9
Atriplex hastata	2.6	5.3	48.8	24.7	5.4	7.7	13.3	60.0	16.2
Aster tripolium		0.4	1.2	0.4		3.8		14.0	1.0
Carex divisa	34.4	13.0	8.1	11.1	12.6			6.0	14.0
Carex otrubae	9.9	16.2	17.4	7.4	4.8		24.4	8.0	11.0
Carex distans		2.1	1.2		3.6				1.2
Chenopodium chenopodioides		1.1	24.4	45.4	16.2	11.5	11.1	4.0	17.0
Chenopodium rubrum	0.7	0.7		12.9	5.4			8.0	4.7
Crassula helmsii		0.4			0.6				0.2
Epilobium hirsutum	9.3	7.4	4.7	1.8	6.6		6.7		5.4
Galium palustre	12.6	5.6		0.7	0.6		2.2		3.6
Glaux maritima		1.4	8.1	8.1	4.2				3.8
Inula crithmoides								2.0	0.1
Juncus effusus	4.6	5.6	2.3	4.8	4.2		40.0	8.0	6.2
Juncus inflexus	43.0	52.5	12.8	11.4	20.4		33.3	10.0	28.7
Juncus gerardii	2.0	11.6	27.9	49.1	31.7	23.1	15.6	24.0	25.1
Juncus maritima		2.1	1.2	1.8	4.2		4.4	4.0	2.1
Lycopus europaeus	5.3	3.2	9.3	0.4	2.4		8.9	2.0	3.2
Lysimachia nummularia			1.2						0.1
Mentha aquatica	7.3	8.1		1.1	1.2		2.2		3.7
Myosotis cespitosa	13.2	7.7			1.8		4.4		4.4
Myosotis scorpioides		3.2	1.2		0.6				1.0
Oenanthe lachenalii	0.7			0.4					0.2
Polypogon monspeliensis				4.1	1.8			4.0	1.5
Pulicaria dysenterica	9.3	4.9	7.0	1.5	1.2	3.8	8.9		4.2
Salicornia sp.				0.4	1.2	26.9		14.0	1.6
Samolus valerandi	0.7	1.1	3.5						0.6
Solanum dulcamara	2.0	6.0	5.8	1.8	6.6		4.4	10.0	4.4
Spartina anglica								2.0	0.1
Spergularia marina		0.4	1.2	6.3	4.2	11.5	8.9	20.0	4.0
Spergularia media			1.2	0.4					0.2
Sueda maritima								2.0	0.1
Triglochin maritima		0.4							0.1
Triglochin palustre		2.8							0.7
Scrub cover (1-3)	4.2	15.4	1.0	0.7	13.2	3.8	24.4	14.0	8.4
Ditch choked	54.8	23.1	9.3	7.0	8.4	3.8	44.4	26.0	20.3
Ditch dry	35.7	19.4	34.0	37.6	31.7	23.1	64.4	30.0	30.7

Area	MS 1	MS 2	MS 3	MS 4	MS 5	MS 6	MS 7	MS 8	TOTAL
Average number of aquatics	2.3	2.4	1.2	1.1	1.7	0.4	0.6	0.5	1.6
Average number of emergents	3.4	3.5	1.6	1.3	1.5	0.9	1.7	1.5	2.2
Average number of bank species	1.6	1.6	1.9	2.0	1.4	1.0	1.9	2.0	1.7
Average number of all species	7.3	7.5	4.6	4.4	4.6	2.3	4.1	4.0	5.6

Total number of aquatics	20	21	12	15	15	1	7	7	27
Total number of emergents	21	24	11	13	15	2	11	6	29
Total number of bank species	16	25	20	22	23	7	15	18	33
Total number of all species	57	70	43	50	53	10	33	31	89

* Excluded from totals and averages

Areas
MS 1 = Graveney Marshes and Seasalter Level
MS 2 = Milton Creek to Ham Marshes
MS 3 = Capel Fleet and The Swale NNR
MS 4 = Neatscourt/Minster/Stray/Elmley/Spitend Marshes
MS 5 = Chetney/Ferry/Ridham Marshes
MS 6 = Barksore Marshes
MS 7 = Motney Hill/Horsham Marshes
MS 8 = Abbots Court/Kingsnorth/Stoke

Number of species categories
Number of ditches in each size class (see pie graphs)

Number of aquatic species

Size class	MS 1	MS 2	MS 3	MS 4	MS 5	MS 6	MS 7	MS 8	total
6-12	18	15	0	3	5	0	0	0	41
3-5	43	114	11	44	42	0	4	1	259
1-2	36	90	45	96	68	11	8	19	373
0	54	65	30	128	52	15	33	30	407

Number of emergent species

Size class	MS 1	MS 2	MS 3	MS 4	MS 5	MS 6	MS 7	MS 8	total
6-11	32	54	0	1	0	0	1	0	88
3-5	46	114	7	18	22	0	7	3	217
1-2	72	106	77	238	134	21	33	45	726
0	1	10	2	14	11	5	4	2	49

Number of bank species

Size class	MS 1	MS 2	MS 3	MS 4	MS 5	MS 6	MS 7	MS 8	total
5-7	10	6	5	10	4	0	3	2	40
3-4	20	57	17	94	25	2	14	13	242
1-2	82	167	50	115	99	14	14	31	572
0	39	54	14	52	39	10	14	4	226

Total number of species

Size class	MS 1	MS 2	MS 3	MS 4	MS 5	MS 6	MS 7	MS 8	total
15-24	19	19	0	1	0	0	0	0	39
10-14	36	68	4	7	10	0	1	1	127
5-9	33	119	33	113	67	1	17	14	397
1-4	62	72	49	146	87	25	26	35	502
0	1	6	0	4	3	0	1	0	15

Table 5 Percentage frequency of occurence of species across conductivity ranges
North Kent Marshes SSSIs survey data 1995

Ditch Type	Freshwater		Brackish .		Very brackish	
Conductivity range (µScm x 100)	0-9	10-19	20-29	30-49	50-89	90-199+
Azolla filiculoides	1.4	7.3	7.3	10.9	1.3	
Callitriche obtusangula	34.9	28.0	25.6	17.5	6.4	0.6
Callitriche stagnalis/spp	1.4	0.5				
Ceratophyllum demersum	24.1	9.6	3.2	1.8		
Ceratophyllum submersum	17.0	29.8	52.5	47.1	20.6	2.9
Chara sp	0.5					
Elodea canadensis	1.4	0.5		0.3		
Elodea nuttallii	18.9	10.1	2.7	0.9		
Enteromorpha sp*	21.7	17.0	16.4	12.7	8.6	9.8
Filamentous algae*	50.9	33.9	44.3	45.3	40.3	22.0
Groenlandia densa	0.9	0.5				
Hydrocharis morsus-ranae	42.0	6.4	3.7	2.4		
Lemna gibba	15.6	22.0	26.9	9.7	0.9	
Lemna miniscula	5.7	3.7	0.5			
Lemna minor	80.2	73.4	64.4	39.3	21.5	1.2
Lemna trisulca	58.0	63.8	61.2	51.1	21.5	1.2
Myriophyllum aquaticum	0.5					
Myriophyllum spicatum	8.5	11.0	18.3	16.0	12.0	6.9
Myriophyllum verticillatum	1.4					
Nymphaea alba			0.5	0.3		
Nymphoides peltata		0.5				
Potamogeton crispus	7.5	4.6	0.5	0.3		
Potamogeton natans	2.8					
Potamogeton pectinatus	16.5	17.0	35.6	45.3	43.3	47.4
Potamogeton pusillus/berchtoldii	10.4	5.0	0.9	0.9		
Ranunculus baudotii	3.3	10.1	11.0	12.4	13.7	2.3
Ranunculus circinatus	0.5					
Ranunculus trichophyllus	0.5	3.7	9.1	7.6	7.3	1.7
Spirodela polyrhiza	5.2	0.9	0.9	0.3	0.4	
Stratiotes aloides	0.9					
Utricularia vulgaris	8.5	0.5	0.5			
Zannichellia palustris	2.8	2.8	2.3	3.0	3.9	3.5
Alisma plantago-aquatica	14.6	16.5	10.5	3.6	0.4	
Apium nodiflorum	22.2	11.0	6.8	3.0		
Berula erecta	60.8	50.5	32.4	29.0	7.7	
Butomus umbellatus	0.9	2.3		0.3		
Carex riparia	11.8	6.4	1.4	0.6		
Eleocharis palustris	39.6	38.5	48.4	37.5	12.0	1.2
Equisetum fluviatile	7.1	3.7	0.9			
Glyceria fluitans	7.1	5.5	4.6	3.0	1.7	
Glyceria maxima	10.4	6.0	0.5		0.4	
Hippuris vulgaris	0.9	4.1	0.9	1.5	1.7	
Iris pseudacorus	0.5					
Juncus articulatus	18.9	6.0	0.9	0.3		
Nasturtium officinale agg	30.2	24.3	18.3	14.2	0.9	
Oenanthe aquatica	0.9	0.5	0.9			
Oenanthe fistulosa	14.2	7.8	15.1	18.4	14.6	2.3
Oenanthe silaifolia	1.4		0.5			
Phalaris arundinacea	1.9					
Phragmites australis	51.4	38.1	22.8	26.3	14.2	26.6
Ranunculus sceleratus	12.7	18.3	11.9	5.4	1.7	1.7
Rumex hydrolapathum	14.2	5.0	2.3	2.7	0.4	
Sagittaria sagittifolia	0.5					
Scirpus lacustris	7.5	6.0	7.8	5.7	3.9	4.6
Scirpus maritimus	29.7	51.8	75.3	83.4	88.0	89.0
Sparganium erectum	46.2	33.5	11.9	4.2	1.7	
Typha angustifolia	5.2	11.0	11.4	5.4	4.3	1.2
Typha latifolia	8.5	6.0	4.1	1.5	0.4	1.2
Veronica anagallis-aquatium	0.5					
Veronica catenata	3.3	8.7	7.3	3.0		0.6
Veronica scutellata	1.4					
Atriplex hastata	0.9	5.5	7.8	6.3	23.2	39.9
Aster tripolium						4.0
Carex divisa	24.5	21.6	29.2	29.0	17.6	8.1
Carex otrubae	29.2	36.2	26.9	23.3	9.4	1.2
Carex distans	1.9		0.5	0.3		
Chenopodium chenopodioides	0.5	0.5	2.3	9.1	24.9	22.5
Chenopodium rubrum	0.5	0.5	1.4	2.7	8.6	4.6
Crassula helmsii	1.4		0.5			0.6
Epilobium hirsutum	11.8	10.1	1.8	0.9	1.7	
Eupatorium cannabinum		0.5				
Galium palustre	16.5	6.9	5.0	1.5		0.6
Glaux maritima		1.8	1.4	1.2	7.3	8.1
Inula crithmoides						0.6
Juncus effusus	7.1	7.8	5.5	2.4	0.9	0.6
Juncus inflexus	67.9	65.1	47.5	28.7	8.2	5.2
Juncus gerardii	2.8	6.9	10.5	11.2	34.8	37.0
Juncus maritima	0.5	0.9	0.5	1.2	3.0	8.7
Lycopus europaeus	16.0	6.0	4.6	1.2		1.2
Mentha aquatica	9.9	5.5		0.3		
Myosotis cespitosa	21.7	7.8	3.7	0.9		
Myosotis scorpioides	2.8	0.9				
Oenanthe lachenalii	1.4	0.9	1.4	2.7	1.3	0.6
Polypogon monspeliensis				0.3	4.7	3.5
Pulicaria dysenterica	4.2	3.2	0.9	0.6	1.7	1.7
Salicornia sp						8.1
Samolus valerandi	1.9	1.8	1.4	1.2	0.9	1.2
Scutellaria galericulata	1.9	0.9	0.9			
Solanum dulcamara	10.8	9.6	12.3	8.8	4.3	0.6
Spartina anglica						0.6
Spergularia marina			0.5	0.6	2.1	12.7
Spergularia media			0.5			0.6
Sueda maritima						0.6
Triglochin palustre	3.3	1.8	0.5	0.3		
Number of ditches	215	216	219	331	233	173

Total number of species	0-9	10-19	20-29	30-49	50-89	90-199+
Total number of aquatics	27	22	19	18	11	8
Total number of emergents	30	24	24	21	17	10
Total number of bank species	23	23	24	23	17	25
Total number of all species	80	69	67	62	45	43

Average number of species	0-9	10-19	20-29	30-49	50-89	90-199+
Average number of aquatics	3.9	3.4	3.6	3.0	1.9	0.8
Average number of emergents	4.3	3.6	3.0	2.5	1.5	1.3
Average number of bank species	2.4	2.0	1.7	1.3	1.5	1.7
Average number of all species	10.6	9.1	8.3	6.9	4.9	3.8

*Excluded from totals and averages

Table 6(a) Percentage frequency of occurrence of species relative to land use categories

Ditch type	Fresh			Brackish			Very brackish			Totals		
P=pasture N=non-pasture	P/P	P/N	N/N	P/P	P/N	N/N	P/P	P/N	N/N	P/P	P/N	N/N
Azolla filiculoides	3.4	6.3	5.1	7.2	10.9	13.9	0.4	1.2	1.2	4.0	6.6	7.5
Callitriche obtusangula	33.8	31.6	26.3	23.3	21.8	13.1	5.0		4.7	20.9	18.8	15.0
Callitriche stagnalis/spp	0.9	2.1								0.3	0.7	
Ceratophyllum demersum	23.9	7.4	9.1	3.1	2.7					8.3	3.5	2.9
Ceratophyllum submersum	26.9	18.9	20.2	54.1	47.3	38.5	11.7	14.5	15.3	33.2	28.5	26.1
Elodea canadensis	0.4	2.1	1.0	0.3						0.3	0.7	0.3
Elodea nuttallii	12.4	11.6	22.2	1.6	0.9	2.5				4.3	4.2	8.2
Enteromorpha sp*	20.1	18.9	18.2	15.7	13.6	10.7	8.8	10.8	8.2	14.9	14.6	12.4
Filamentous algae*	47.9	40.0	32.3	47.8	36.4	45.1	30.1	27.7	43.5	42.5	35.1	40.5
Groenlandia densa	0.9	1.1								0.3	0.3	
Hydrocharis morsus-ranae	30.3	17.9	15.2	2.5	2.7	4.1				10.0	6.9	6.5
Lemna gibba	15.8	22.1	23.2	19.8	14.5	9.8	0.8			12.9	12.8	11.4
Lemna miniscula	4.7	7.4	2.0	0.3						1.5	2.4	0.7
Lemna minor	83.3	80.0	59.6	55.3	55.5	27.9	11.3	18.1	11.8	50.3	52.8	33.7
Lemna trisulca	62.0	60.0	60.6	54.7	60.0	51.6	9.2	24.1	11.8	43.1	49.7	43.5
Myriophyllum aquaticum		1.1									0.3	
Myriophyllum spicatum	9.4	11.6	9.1	18.2	19.1	11.5	8.4	14.5	9.4	12.6	15.3	10.1
Myriophyllum verticillatum	1.3									0.4		
Nymphaea alba				0.3	0.9					0.1	0.3	
Nymphoides peltata			1.0									0.3
Potamogeton crispus	6.0	9.5	3.0		1.8					1.8	3.8	1.0
Potamogeton natans	1.7	2.1								0.5	0.7	
Potamogeton pectinatus	20.1	20.0	6.1	47.2	38.2	29.5	50.6	43.4	30.6	40.2	33.7	22.2
Potamogeton pusillus/berchtoldii	10.3	6.3	3.0	0.9	0.9	0.8				3.4	2.4	1.3
Ranunculus baudotii	9.0	3.2	5.1	13.5	9.1	9.8	8.4	3.6	15.3	10.6	5.6	9.8
Ranunculus circinatus		1.1									0.3	
Ranunculus trichophyllus	2.1		4.0	6.6	10.0	10.7	3.8	10.8	2.4	4.4	6.9	6.2
Ranunculus seedling	2.1	1.1	2.0	4.7	3.6		5.9			4.3	1.7	0.7
Spirodela polyrhiza	2.1	3.2	5.1	0.9					1.2	1.0	1.0	2.0
Stratiotes aloides	0.9									0.3		
Utricularia vulgaris	6.4	3.2	1.0		0.9					1.9	1.4	0.3
Zannichellia palustris	4.3		2.0	3.5	1.8	1.6	5.0		3.5	4.2	0.7	2.3
Alisma plantago-aquatica	17.5	8.4	18.2	6.6	5.5	6.6	0.4			8.0	4.9	8.5
Apium nodiflorum	22.6	8.4	10.1	6.0	5.5					9.1	4.9	3.3
Berula erecta	62.4	46.3	49.5	27.0	34.5	35.2	3.3	7.2	4.7	30.3	30.6	31.4
Butomus umbellatus	1.7		3.0		0.9					0.5	0.3	1.0
Carex riparia	12.4	6.3	4.0	1.3	0.9					4.2	2.4	1.3
Eleocharis palustris	45.3	28.4	35.4	47.8	36.4	31.1	5.9	4.8	14.1	34.4	24.7	27.8
Equisetum fluviatile	6.0	5.3	4.0	0.6						2.0	1.7	1.3
Glyceria fluitans	7.3	9.5	1.0	5.3	1.8	0.8	1.3		1.2	4.7	3.8	1.0
Glyceria maxima	10.7	6.3	4.0	0.3				1.2		3.3	2.4	1.3
Hippuris vulgaris	2.6	3.2	2.0	1.3	0.9	1.6	0.8		2.4	1.5	1.4	2.0
Iris pseudacorus		1.1									0.3	
Juncus articulatus	16.7	11.6	3.0	0.3	0.9	0.8				5.1	4.2	1.3
Nasturtium officinale agg	31.2	31.6	14.1	17.9	15.5	10.7	0.8			16.7	16.3	8.8
Oenanthe aquatica	0.9	1.1		0.6						0.5	0.3	
Oenanthe fistulosa	14.5	6.3	7.1	16.7	16.4	18.9	4.6	10.8	21.2	12.4	11.5	15.7
Oenanthe silaifolia		2.1	1.0	0.3						0.1	0.7	0.3
Phalaris arundinacea		2.1	2.0								0.7	0.7
Phragmites australis	40.6	48.4	51.5	20.8	31.8	29.5	13.4	24.1	32.9	24.4	35.1	37.6
Ranunculus sceleratus	13.7	12.6	23.2	6.9	6.4	12.3	0.4	3.6	3.5	7.0	7.6	13.4
Rumex hydrolapathum	11.5	9.5	5.1	2.5	5.5			1.2		4.4	5.6	1.6
Sagittaria sagittifolia		1.1									0.3	
Scirpus lacustris	8.5	7.4	2.0	8.5	6.4	1.6	2.9	8.4	3.5	6.8	7.3	2.3
Scirpus maritimus	33.8	48.4	51.5	77.4	81.8	86.1	90.8	90.4	80.0	68.5	73.3	73.2
Sparganium erectum	47.4	29.5	32.3	6.6	10.0	6.6	0.4	2.4	1.2	16.8	14.2	13.4
Typha angustifolia	6.0	12.6	9.1	7.9	7.3	8.2	1.7	4.8	5.9	5.4	8.3	7.8
Typha latifolia	4.3	13.7	8.1	1.6	2.7	4.9		2.4	1.2	1.9	6.3	4.9
Veronica anagallis-aquatica	0.4									0.1		
Veronica catenata	6.4	4.2	7.1	3.1	9.1	4.9	0.4			3.3	4.9	4.2
Veronica scutellata	1.3									0.4		
Atriplex hastata	1.3	6.3	5.1	6.3	10.9	4.9	30.1	39.8	22.4	12.0	17.7	9.8
Aster tripolium							2.5		1.2	0.8		0.3
Carex divisa	21.8	22.1	27.3	28.3	33.6	27.0	9.2	18.1	21.2	20.6	25.3	25.5
Crassula helmsii	0.4	1.1	1.0		0.9		0.4			0.3	0.7	0.3
Carex otrubae	31.6	36.8	32.3	20.4	35.5	26.2	2.5	13.3	8.2	18.3	29.5	23.2
Carex distans	0.4	3.2		0.3	0.9					0.3	1.4	
Chenopodium chenopodioides	0.4		1.0	8.2	4.5	3.3	30.5	18.1	11.8	12.6	6.9	4.9
Chenopodium rubrum		1.1	1.0	3.5	0.9		7.5	7.2	4.7	3.7	2.8	1.6
Epilobium hirsutum	4.7	22.1	15.2	0.3	4.5	0.8		3.6	1.2	1.5	10.1	5.6
Eupatorium cannabinum	0.4									0.1		
Galium palustre	16.2	8.4	4.0	3.1	2.7	2.5	0.4			6.2	3.8	2.3
Glaux maritima	0.4	3.2		1.9	0.9		11.3	4.8		4.3	2.8	
Inula crithmoides								1.2			0.3	
Juncus effusus	9.8	5.3	4.0	4.4	2.7	2.5	0.8	1.2		4.9	3.1	2.3
Juncus inflexus	75.6	64.2	48.5	38.1	36.4	31.1	5.9	8.4	8.2	39.4	37.5	30.4
Juncus gerardii	4.3	6.3	5.1	13.5	7.3	7.4	46.0	32.5	10.6	20.6	14.2	7.5
Juncus maritima	0.4	1.1	1.0	0.9	1.8		7.9		3.5	2.9	1.0	1.3
Lycopus europaeus	12.0	12.6	7.1	0.9	5.5	4.1			2.4	3.9	6.3	4.6
Mentha aquatica	9.4	7.4	4.0			0.8				2.8	2.4	1.6
Myosotis cespitosa	19.2	12.6	6.1	2.5	1.8	0.8				6.7	4.9	2.3
Myosotis scorpioides	2.6	2.1								0.8	0.7	
Oenanthe lachenalii	1.3	1.1	1.0	2.8	1.8	0.8	0.8		2.4	1.8	1.0	1.3
Polypogon monspeliensis				0.3			6.3	1.2	1.2	2.0	0.3	0.3
Pulicaria dysenterica	2.6	6.3	4.0	0.6		1.6	0.4	4.8	2.4	1.1	3.5	2.6
Salicornia sp.							1.7	3.6	8.2	0.5	1.0	2.3
Samolus valerandi	1.7	3.2	1.0	1.9		0.8		4.8		1.3	2.4	0.7
Scutellaria galericulata	2.1	1.1		0.6						0.9	0.3	
Solanum dulcamara	4.3	17.9	17.2	2.8	13.6	26.2	0.8	8.4	2.4	2.7	13.5	16.7
Spartina anglica								1.2			0.3	
Spergularia marina				0.9			7.9	8.4	2.4	2.8	2.4	0.7
Spergularia media				0.3					1.2	0.1		0.3
Sueda maritima								1.2			0.3	
Triglochin palustre	4.3	1.1		0.6						1.5	0.3	
Number of ditches	234	95	99	318	110	122	239	83	85	791	288	306

Average number of aquatics	4.4	3.9	3.4	3.8	3.5	2.9	1.6	1.7	1.6	2.8	2.6	2.1
Average number of emergents	4.3	3.7	3.5	2.7	2.8	2.6	1.3	1.6	1.7	2.7	2.7	2.6
Average number of bank specie	2.3	2.5	1.9	1.4	1.7	1.4	1.7	1.8	1.2	1.8	2.0	1.4
Average number of all species	11.0	10.0	8.7	7.9	8.0	6.9	4.6	5.1	4.5	7.2	7.2	6.1

Total number of aquatics	26	24	22	20	19	14	12	8	11	27	27	22
Total number of emergents	25	26	24	23	20	16	14	12	12	26	27	24
Total number of bank species	24	23	19	24	18	16	19	19	18	30	30	24
Total number of all species	75	73	65	67	57	46	45	39	41	83	84	70

*Excluded from totals and averages

Table 6(b) Species more frequent adjacent or outside pasture
Percentage change relative to pasture (>9%)

Ditch type	Freshwater		Brackish		V. brackish		Total	
P=pasture N=non-pasture	P/N	N/N	P/N	N/N	P/N	N/N	P/N	N/N
Elodea nuttallii		9.8						
Filimentous algae						13.4		
Lemna trisulca					14.9			
Oenanthe fistulosa						16.6		
Phragmites australis		10.9	11.1		10.7	19.6	10.7	13.2
Ranunculus sceleratus		9.6						
Scirpus maritimus	14.7	17.8						
Typha latifolia	9.4							
Atriplex hastata					9.6			
Carex divisa						12.0		
Carex otrubae			15.0		10.7		11.2	
Epilobium hirsutum	17.4	10.5						
Solanum dulcamara	13.6	12.9	10.8	23.4			10.9	14.0

Table 6(c) Species less frequent adjacent or outside pasture
Percentage change relative to pasture (<-9%)

Ditch type	Freshwater		Brackish		V. brackish		Total	
P=pasture N=non-pasture	P/N	N/N	P/N	N/N	P/N	N/N	P/N	N/N
Elodea nuttallii				-10.2				
Ceratophyllum demersum	-16.6	-14.8						
Ceratophyllum submersum				-15.6				
Filamentous algae		-15.5	-11.4					
Hydrocharis morsus-ranae	-12.4	-15.2						
Lemna gibba				-10.0				
Lemna minor		-23.7		-27.5				-16.7
Potamogeton pectinatus		-14.0		-17.7		-20.0		-18.0
Alisma plantago-aquatica	-9.1							
Apium nodiflorum	-14.2	-12.5						
Berula erecta	-16.1	-12.9						
Eleocharis palustris	-16.9	-9.9	-11.4	-16.7			-9.7	
Juncus articulatus		-13.6						
Nasturtium officinale agg		-17.1						
Scirpus maritimus						-10.8		
Sparganium erectum	-18.0	-15.1						
Chenopodium chenopodioide					-12.5	-18.8		
Galium palustre		-12.2						
Glaux maritima						-11.3		
Juncus inflexus	-11.4	-27.2						-9.1
Juncus gerardii					-13.5	-35.4		-13.1
Myosotis cespitosa		-13.2						

Table 7 (a) Percentage frequency of occurence of species relative to ditch width categories

Ditch type	Fresh		Brackish		Very brackish		Total	
Width ranges	1-5m	>5m	1-5m	>5m	1-5m	>5m	1-5m	>5m
Azolla filiculoides	5.2	1.2	8.5	15.0	1.0		5.5	4.8
Callitriche obtusangula	30.6	35.8	23.9	2.5	5.1	0.9	20.9	11.8
Callitriche stagnalis/spp	1.2						0.4	
Ceratophyllum demersum	15.7	22.2	1.7	6.3			5.6	8.5
Ceratophyllum submersum	24.8	19.8	50.7	40.0	16.6	3.6	33.6	19.2
Chara sp	0.3						0.1	
Elodea canadensis	1.2			1.3			0.4	0.4
Elodea nuttallii	11.7	27.2	1.7	1.3			4.3	8.5
Enteromorpha sp*	16.6	32.1	12.6	23.8	9.8	7.3	13.1	19.6
Filamentous algae*	38.8	60.5	46.5	36.3	38.5	16.4	42.0	35.4
Groenlandia densa	0.3	2.5					0.1	0.7
Hydrocharis morsus-ranae	19.5	44.4	2.8	3.8			7.2	14.4
Lemna gibba	20.4	13.6	18.6	5.0	0.7		14.4	5.5
Lemna miniscula	5.2	1.2	0.2				1.7	0.4
Lemna minor	78.1	75.3	51.4	37.5	17.2	0.9	50.5	33.9
Lemna trisulca	65.6	44.4	59.5	28.8	16.6	2.7	49.9	22.9
Myriophyllum aquaticum	0.3						0.1	
Myriophyllum spicatum	8.5	16.0	15.1	26.3	11.5	5.5	12.1	14.8
Myriophyllum verticillatum		3.7						1.1
Nymphaea alba			0.2	1.3			0.1	0.4
Nymphoides peltata		1.2						0.4
Potamogeton crispus	6.7	3.7	0.4				2.3	1.1
Potamogeton natans	1.2	2.5					0.4	0.7
Potamogeton pectinatus	14.9	25.9	41.6	41.3	48.0	37.3	35.0	35.1
Potamogeton pusillus/berchtoldii	5.8	16.0	1.1				2.3	4.8
Ranunculus baudotii	7.6	3.7	12.2	10.0	11.1	2.7	10.5	5.2
Ranunculus circinatus	0.3						0.1	
Ranunculus trichophyllus	2.6		50.6	4.9	23.5	1.2	6.2	1.8
Ranunculus seedling	1.5	3.7	19.8	3.7	12.3	4.9	2.8	3.7
Spirodela polyrhiza	1.2	11.1		3.8	0.3		0.5	4.4
Stratiotes aloides	0.6						0.2	
Utricularia vulgaris	4.1	6.2	0.2				1.4	1.8
Zannichellia palustris	2.9	2.5	2.6	3.8	4.7	0.9	3.2	2.2
Alisma plantago-aquatica	15.5	16.0	6.8	3.8	0.3		7.8	5.9
Apium nodiflorum	13.4	30.9	4.9	2.5			6.2	10.0
Berula erecta	57.1	51.9	34.3	7.5	5.7	0.9	33.8	18.1
Butomus umbellatus	2.0		0.2				0.7	
Carex riparia	9.6	6.2	1.1				3.4	1.8
Eleocharis palustris	40.5	35.8	44.3	26.3	10.1		34.0	18.5
Equisetum fluviatile	4.4	9.9	0.4				1.5	3.0
Glyceria fluitans	6.4	6.2	4.3		1.4		4.2	1.8
Glyceria maxima	5.0	22.2	0.2		0.3		1.7	6.6
Hippuris vulgaris	2.3	3.7	1.3	1.3	1.4		1.6	1.5
Iris pseudacorus	0.3						0.1	
Juncus articulatus	12.2	13.6	0.2	2.5			3.9	4.8
Nasturtium officinale agg	26.8	29.6	17.9	3.8	0.7		16.1	10.0
Oenanthe aquatica	0.6	1.2	0.4				0.4	0.4
Oenanthe fistulosa	11.1	11.1	19.0	6.3	12.2	1.8	14.7	5.9
Oenanthe silaifolia	0.3	2.5	0.2				0.2	0.7
Phalaris arundinacea		4.9						1.5
Phragmites australis	42.6	54.3	23.9	31.3	16.9	26.4	27.8	36.2
Ranunculus sceleratus	14.0	19.8	8.7	3.8	2.0	0.9	8.6	7.4
Rumex hydrolapathum	7.6	18.5	2.8	1.3	0.3		3.6	5.9
Sagittaria sagittifolia	0.3						0.1	
Scirpus lacustris	7.6	3.7	6.2	8.8	3.0	7.3	5.8	6.6
Scirpus maritimus	39.9	45.7	77.8	93.8	90.2	83.6	69.4	75.3
Sparganium erectum	39.9	42.0	7.5	6.3	1.4		15.9	14.4
Typha angustifolia	8.2	6.2	8.3	5.0	3.4	1.8	6.9	4.1
Typha latifolia	7.6	4.9	2.1	5.0	0.7	0.9	3.4	3.3
Veronica anagallis-aquatica		1.2						0.4
Veronica catenata	5.8	7.4	3.4	12.5	0.3		3.3	5.9
Veronica scutellata	0.3	2.5					0.1	0.7
Atriplex hastata	2.9	3.7	7.2	5.0	29.4	32.7	11.8	15.9
Aster tripolium					0.7	4.5	0.2	1.8
Carex divisa	25.4	14.8	30.7	20.0	14.2	11.8	24.6	15.1
Crassula helmsii	0.9		0.2		0.3		0.5	
Carex otrubae	36.7	16.0	27.9	6.3	8.1		25.4	6.6
Carex distans	0.9	1.2	0.4				0.5	0.4
Chenopodium chenopodioides	0.3	1.2	4.5	17.5	20.9	31.8	7.6	18.5
Chenopodium rubrum	0.6		1.1	8.8	4.7	12.7	1.9	7.7
Epilobium hirsutum	10.8	12.3	1.1	2.5	1.4		4.2	4.4
Eupatorium cannabinum		1.2						0.4
Galium palustre	13.1	6.2	3.4			0.9	5.5	2.2
Glaux maritima	0.9	1.2	1.1	2.5	7.1	9.1	2.6	4.8
Inula crithmoides						0.9		0.4
Juncus effusus	9.3		4.3		1.0		5.0	
Juncus inflexus	70.0	53.1	39.4	16.3	8.4	2.7	40.6	21.8
Juncus gerardii	5.0	4.9	10.7	12.5	34.5	39.1	15.3	21.0
Juncus maritima	0.9		0.9	1.3	5.7	4.5	2.2	2.2
Lycopus europaeus	9.9	13.6	1.9	6.3		1.8	3.9	6.6
Mentha aquatica	7.0	11.1	0.2				2.3	3.3
Myosotis cespitosa	14.3	17.3	1.9	2.5			5.2	5.9
Myosotis scorpioides	0.9	6.2					0.3	1.8
Oenanthe lachenalii	0.6	2.5	2.6		1.0	0.9	1.5	1.1
Polypogon monspeliensis			0.2		4.7	2.7	1.4	1.1
Pulicaria dysenterica	3.8	3.7	0.6	1.3	1.7	1.8	1.9	2.2
Salicornia sp.					2.4	6.4	0.6	2.6
Samolus valerandi	2.3		1.5		1.4		1.7	
Scutellaria galericulata	1.7		0.4				0.7	
Solanum dulcamara	10.8	7.4	11.3	3.8	3.7		9.1	3.3
Spartina anglica						0.9		0.4
Spergularia marina			0.4	1.3	2.7	17.3	0.9	7.4
Spergularia media			0.2			0.9	0.1	0.4
Sueda maritima					0.3		0.1	
Triglochin palustre	2.9	1.2	0.4				1.1	0.4
Number of ditches	343	81	469	80	296	110	1108	271

Average number of aquatics	3.4	3.8	3.0	2.4	1.4	0.6	2.7	2.1
Average number of emergents	3.8	4.5	2.8	2.2	1.5	1.2	2.8	2.5
Average number of bank specie	2.3	1.8	1.5	1.1	1.5	1.8	1.8	1.6
Average number of all species	9.5	10.1	7.4	5.7	4.5	3.7	7.2	6.2

Total number of aquatics	28	23	20	18	13	10	29	26
Total number of emergents	27	26	24	17	17	8	27	26
Total number of bank species	24	19	26	15	21	19	30	28
Total number of all species	79	68	70	50	51	37	86	80

*Excluded from totals and averages

Table 7(b) Species more frequent in wider ditches
Percentage change relative to narrower ditches (>9%)

Ditch type	Fresh	Brackish	V brackish	Total
Elodea nuttallii	15.5			
Enteromorpha sp	15.5	11.2		
Filimentous algae	21.7			
Hydrocharis morsus-ranae	24.9			
Myriophyllum spicatum		11.1		
Potamogeton pectinatus	11.1			
Potamogeton pusillus/berch	10.2			
Spirodela polyrhiza	9.9			
Apium nodiflorum	17.5			
Glyceria maxima	17.3			
Phragmites australis	11.8		9.5	
Rumex hydrolapathum	10.9			
Scirpus maritimus		15.9		
Veronica catenata		9.1		
Chenopodium chenopodioide		13.0	10.9	10.9
Spergularia marina			14.6	

Table 7(c) Species less frequent in wider ditches
Percentage change relative to narrower ditches (<-9%)

Ditch type	Fresh	Brackish	V brackish	Total
Callitriche obtusangula		-21.4		-9.1
Ceratophyllum submersum		-10.7	-12.9	-14.4
Filamentous algae		-10.2	-22.1	
Lemna gibba		-13.6		
Lemna minor		-13.9	-16.3	-16.6
Lemna trisulca	-21.2	-30.7	-13.8	-27.0
Potamogeton pectinatus			-10.7	
Ranunculus trichophyllus		-45.7	-22.2	
Ranunculus seedling		-16.0		
Berula erecta		-26.8		-15.7
Eleocharis palustris		-18.1	-10.1	-15.6
Nasturtium officinale agg		-14.2		
Oenanthe fistulosa		-12.7	-10.3	
Carex divisa	-10.5	-10.7		-9.5
Carex otrubae	-20.7	-21.7		-18.7
Juncus effusus	-9.3			
Juncus inflexus	-16.9	-23.2		-18.8

Table 8 Percentage frequency of occurrence of scrub, choked and dry ditches in relation to physical factors

Ditch Width

Ditch type	Dry		Fresh		Brackish		Very brackish		Total	
Width ranges	1-5m	>5m	1-5m	>5m	1-5m	>5m	1-5m	>5m	1-5m	>5m
Scrub 1-9%	9.3	6.3	10.5	4.2	7.1	1.1	4.7	1.7	8.0	2.7
Scrub 10-59%	6.2	9.4	5.9	1.1	2.7	1.1	0.9	0.9	4.0	1.8
Scrub 60-100%	5.8		2.3		0.9		0.9		2.6	
All scrub	21.3	15.6	18.6	5.3	10.7	2.2	6.5	2.6	14.6	4.5
Choked ditches	34.1	40.6	16.6	5.3	10.0	4.4	10.4	9.5	18.2	9.9
Near dry ditches			2.6		3.8	2.2	10.4	1.7	3.7	1.2
Number of ditches	484	32	392	95	550	91	337	116	1763	334

Land Use (P=pasture N=non-pasture)

Ditch type	Dry			Fresh			Brackish			Very brackish			Total		
Land use	P/P	P/N	N/N	P/P	P/N	N/N	P/P	P/N	N/N	P/P	P/N	N/N	P/P	P/N	N/N
Scrub 1-9%	7.7	9.2	12.7	7.5	32.1	6.1	5.8	8.0	5.9	1.5	14.6	1.0	5.8	13.7	6.6
Scrub 10-59%	4.2	16.1	5.1	3.2	21.4	3.0	2.1	4.0	2.2	0.4	3.4		2.5	9.5	2.6
Scrub 60-100%	2.6	12.6	7.6	0.7	7.1	3.0	0.5	1.6	0.7	0.4	2.2		1.1	5.3	2.9
All scrub	14.5	37.9	25.4	11.4	60.7	12.1	8.4	13.6	8.9	2.3	20.2	1.0	9.3	28.6	12.1
Choked ditches	23.2	51.7	51.7	12.5	28.6	19.2	8.1	9.6	11.9	5.8	15.7	17.3	12.4	24.4	25.0
Near dry ditches				1.8	3.6	1.0	2.9	5.6	3.7	7.7	11.2	8.7	2.9	5.3	3.3
Number of ditches	311	87	118	281	56	99	381	125	135	260	89	104	1233	357	456

Table 10 Comparison of unmanaged ditches and ditches in pasture at Cliffe Marshes

Percentage frequency of occurrence of species

Land use	Pasture	Unmanaged	% change (U-P)	
Number of ditches	96	47	>9%	<-9%
Azolla filiculoides	12.5	17.0		
Callitriche obtusangula	33.3	10.6		-22.7
Ceratophyllum submersum	78.1	27.7		-50.5
Enteromorpha sp†	2.1			
Filamentous algae†	69.8	55.3		-14.5
Lemna gibba	33.3	4.3		-29.1
Lemna minor	56.3	10.6		-45.6
Lemna trisulca	76.0	42.6		-33.5
Myriophyllum spicatum	6.3	4.3		
Potamogeton pectinatus	59.4	31.9		-27.5
Ranunculus baudotii	25.0	8.5		-16.5
Ranunculus trichophyllus	24.0	27.7		
Alisma plantago-aquatica	5.2	4.3		
Berula erecta	44.8	12.8		-32.0
Eleocharis palustris	81.3	27.7		-53.6
Glyceria fluitans	12.5			-12.5
Hippuris vulgaris	5.2	2.1		
Nasturtium officinale agg	44.8	17.0		-27.8
Oenanthe aquatica	1.0			
Oenanthe fistulosa	32.3	12.8		-19.5
Phragmites australis	3.1	12.8	9.6	
Ranunculus sceleratus	10.4	17.0		
Scirpus lacustris	1.0			
Scirpus maritimus	79.2	97.9	18.7	
Typha angustifolia		8.5		
Typha latifolia	1.0	6.4		
Veronica catenata	4.2	6.4		
Atriplex hastata	7.3			
Carex divisa	29.2	21.3		
Carex otrubae	33.3	36.2		
Chenopodium chenopodioides	1.0			
Juncus effusus	4.2	4.3		
Juncus inflexus	20.8	29.8		
Juncus gerardii	8.3	4.3		
Solanum dulcamara	4.2	53.2	49.0	
Scrub cover	1.0	4.3		
Ditch choked	2.1	10.6		
Ditch dry	3.1	8.5		

Average number of aquatic species	4.1	1.9	-2.2
Average number of emergent species	3.3	2.3	-1.0
Average number of bank species	1.1	1.5	0.4
Average number of all species	8.4	5.6	-2.8

Total number of aquatic species	10	10	0
Total number of emergent species	14	12	-2
Total number of bank species	8	6	-2
Total number of all species	32	28	-4

† Excluded from averages and totals

(Table 9 see over)

Table 9(a) Comparison of ditches in pasture and in hay production at Higham Marshes

Percentage frequency of occurrence of species

Ditch type	Fresh		Brackish		Total	
Land use	Hay	Pasture	Hay	Pasture	Hay	Pasture
Number of ditches	36	18	24	14	60	32
Azolla filiculoides	5.6	5.6		7.1	3.3	6.3
Callitriche obtusangula	16.7	33.3	16.7	28.6	16.7	31.3
Callitriche stagnalis/spp		5.6				3.1
Ceratophyllum demersum	2.8	27.8		14.3	1.7	21.9
Ceratophyllum submersum	25.0	22.2	66.7	42.9	41.7	31.3
Elodea nuttallii	30.6	16.7	12.5		23.3	9.4
Enteromorpha sp†	22.2	33.3	8.3		16.7	18.8
Filamentous algae†	16.7	5.6	54.2	7.1	31.7	6.3
Hydrocharis morsus-ranae	5.6	27.8	8.3		6.7	15.6
Lemna gibba	25.0	22.2	16.7	7.1	21.7	15.6
Lemna miniscula		5.6		7.1		6.3
Lemna minor	52.8	72.2	41.7	71.4	48.3	71.9
Lemna trisulca	72.2	50.0	79.2	85.7	75.0	65.6
Myriophyllum spicatum	5.6				3.3	
Potamogeton crispus	5.6	16.7			3.3	9.4
Potamogeton pectinatus			20.8	14.3	8.3	6.3
Potamogeton pusillus/berchtoldii	2.8	27.8	4.2		3.3	15.6
Ranunculus baudotii	8.3	11.1		14.3	5.0	12.5
Alisma plantago-aquatica	2.8	11.1	12.5		6.7	6.3
Apium nodiflorum	2.8	5.6			1.7	3.1
Berula erecta	63.9	50.0	79.2	28.6	70.0	40.6
Butomus umbellatus	5.6	5.6			3.3	3.1
Carex riparia	2.8	5.6			1.7	3.1
Eleocharis palustris	41.7	38.9	37.5	50.0	40.0	43.8
Glyceria fluitans	11.1	27.8			6.7	15.6
Nasturtium officinale agg	11.1	22.2	12.5	7.1	11.7	15.6
Oenanthe fistulosa	13.9	5.6	16.7	42.9	15.0	21.9
Phragmites australis	36.1	16.7	25.0	14.3	31.7	15.6
Ranunculus sceleratus	30.6	16.7	20.8	7.1	26.7	12.5
Rumex hydrolapathum	5.6	27.8			3.3	15.6
Scirpus lacustris	2.8				1.7	
Scirpus maritimus	47.2	16.7	75.0	57.1	58.3	34.4
Sparganium erectum	27.8	55.6	25.0	21.4	26.7	40.6
Typha angustifolia	13.9		4.2	14.3	10.0	6.3
Typha latifolia		5.6				3.1
Veronica catenata			4.2	7.1	1.7	3.1
Atriplex hastata		5.6	8.3	14.3	3.3	9.4
Carex divisa	50.0	55.6	33.3	78.6	43.3	65.6
Carex otrubae	41.7	38.9	62.5	78.6	50.0	56.3
Epilobium hirsutum	2.8				1.7	
Galium palustre	2.8	16.7	4.2	42.9		
Juncus effusus		11.1			3.3	28.1
Juncus inflexus	69.4	66.7	41.7	85.7	58.3	75.0
Juncus gerardii	8.3		8.3		8.3	
Lycopus europaeus	5.6	5.6	8.3		6.7	3.1
Mentha aquatica		5.6				3.1
Myosotis cespitosa	8.3	22.2	4.2	14.3	6.7	18.8
Samolus valerandi	2.8			21.4	1.7	9.4
Scutellaria galericulata		22.2		14.3		18.8
Solanum dulcamara	2.8	22.2	8.3	21.4	5.0	21.9
Scrub cover	16.7	33.3	12.5	50.0	15.0	40.6
Ditch choked	11.1	5.6	8.3	28.6	10.0	15.6
Ditch dry	22.2	22.2			13.3	12.5

Average number of aquatics	2.6	3.4	2.7	2.9	2.6	3.2
Average number of emergents	3.2	3.1	3.1	2.5	3.2	2.8
Average number of bank species	1.9	2.7	1.8	3.7	1.9	3.2
Average number of all species	7.7	9.3	7.6	9.1	7.7	9.2

Total number of aquatics	13	14	9	10	14	15
Total number of emergents	16	15	11	10	17	17
Total number of bank species	1	1	1	1	1	1
Total number of all species	30	30	21	21	32	33

† Excluded from averages and totals

Table 9(b) Species more frequent in hay production
Percentage change relative to pasture (>9%)

Ditch type	Fresh	Brackish	Total
Ceratophyllum submersum		23.8	10.4
Elodea nuttallii	13.9	12.5	14.0
Filamentous algae	11.1	47.0	25.4
Lemna gibba		9.5	
Lemna trisulca	22.2		9.4
Alisma plantago-aquatica		12.5	
Berula erecta	13.9	50.6	29.4
Phragmites australis	19.4	10.7	16.0
Ranunculus sceleratus	13.9	13.7	14.2
Scirpus maritimus	30.6	17.9	24.0
Typha angustifolia	13.9		

Table 9(c) Species less frequent in hay production
Percentage change relative to pasture (<-9%)

Ditch type	Fresh	Brackish	Total
Callitriche obtusangula	-16.7	-11.9	-14.6
Ceratophyllum demersum	-25.0	-14.3	-20.2
Enteromorpha sp	-11.1		
Hydrocharis morsus-ranae	-22.2		
Lemna minor	-19.4	-29.8	-23.5
Potamogeton crispus	-11.1		
Potamogeton pusillus/berch	-25.0		-12.3
Ranunculus baudotii		-14.3	
Eleocharis palustris		-12.5	
Glyceria fluitans	-16.7		
Nasturtium officinale agg	-11.1		
Oenanthe fistulosa		-26.2	
Rumex hydrolapathum	-22.2		-12.3
Sparganium erectum	-27.8		-14.0
Typha angustifolia		-10.1	
Carex divisa		-45.2	-22.3
Carex otrubae		-16.1	
Galium palustre	-13.9	-38.7	
Juncus effusus	-11.1		-24.8
Juncus inflexus		-44.0	-16.7
Myosotis cespitosa	-13.9	-10.1	-12.1
Samolus valerandi		-21.4	
Scutellaria galericulata	-22.2	-14.3	-18.8
Solanum dulcamara	-19.4	-13.1	-16.9

Table 11 Floristic changes along a ditch showing a conducitvity gradient at Cooling Marshes

Ditch number	493	511	514	509	504
Callitriche obtusangula			1	1	1
Ceratophyllum demersum		1	1	1	
Ceratophyllum submersum	1				
Enteromorpha sp*		1	D	1	1
Filamentous algae*	D				
Lemna gibba		1			
Lemna minor		1	1	1	1
Lemna trisulca	1	1	1	1	1
Myriophyllum spicatum		1			
Potamogeton crispus		1	1		1
Potamogeton pectinatus	1	1			
Berula erecta			1	1	
Eleocharis palustris		1	1	1	1
Giant lily					1
Oenanthe fistulosa			1		
Scirpus maritimus	2	2	2	2	1
Atriplex hastata	1				
Carex divisa	1	1	1	1	
Carex otrubae	1		1	1	1
Crassula helmsii				1	
Epilobium hirsutum					1
Juncus inflexus			1	1	1
Juncus gerardii	1				
Lycopus europaeus			1	1	1
Samolus valerandi	1				
Solanum dulcamara	1				1
Land use north/east	H	P	P	U	P
Land use south/west	P	H	H	H	U
Conductivity (µScm x 100)	52	39	21	6	4

Ditch number	493	511	514	509	504
Number of aquatics	3	7	5	4	4
Number of emergents	1	2	4	3	2
Number of bank species	6	1	4	5	5
Total number of species	10	10	13	12	12

*Excluded from totals
1 = present
2 = abundance between 10 - 59%
D = dominant
Land use categories: P = pasture H = hay U = unmanaged

4. DISCUSSION

The discussion is divided into three sections. The first section is a discussion of the analysis of the floristic data with respect to physical factors influencing diversity and species distribution. The second section contains descriptions of the individual areas of contiguous grazing marsh with the SSSIs, and the third section is an assessment of the areas against the SSSI selection criteria.

4.1 Physical and Chemical factors

4.1.1 Floristic diversity across conductivity ranges

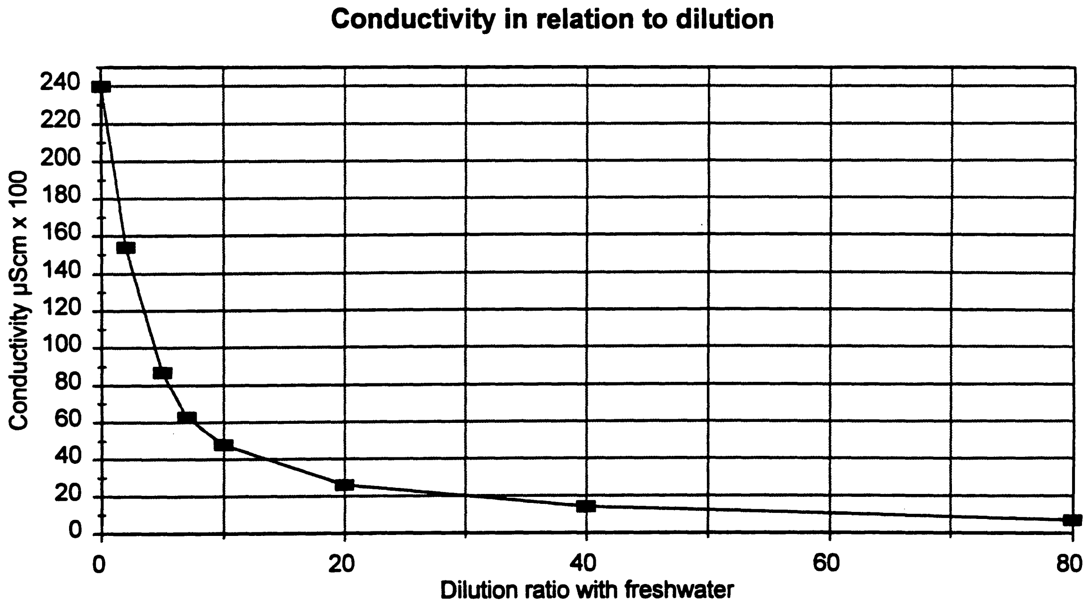
Salinity levels within brackish ditches fluctuate during the hydrological cycle. Levels are generally at their lowest in winter when water levels are high and at their highest at the end of the summer, when many of the ditches are close to desiccation. Conductivity values recorded for one area of grazing marsh cannot therefore be reliably compared with other areas surveyed earlier or later in the year. However pie distributions showing the proportion of ditches within broader conductivity ranges appear to provide a reasonable comparison of the respective brackishness of each area.

Floristic composition is influenced mainly by the maximum salinity level, though it may vary slightly in response to changes in salinity through the year. The field work was carried out between June and August, when salinity levels were likely to be approaching or at their maximum. This was not the case however in one or two areas where freshwater was pumped into the system during the August drought. This occurred at Teynham Level, where the aquatic ditch flora appeared to indicate more brackish conditions than the low conductivity levels suggested.

The following is an analysis of the floristic composition of ditches in relation to conductivity (μScm^{-1} x 100). On the basis of the above it assumes that the composition of a ditch reflects the conductivity range into which it fits. The results appear to suggest that this was the case, though it should be stressed that these are field results, and the conductivity grouping may not be entirely valid.

In order to relate the conductivity scale to something more simple, Figure 1 below shows conductivity values in relation to the dilution ratio of freshwater to seawater they represent.

Figure 1



Changes in the average and total number of species

Figures 2 and 3 below (taken from Table 5 in Section 3.8) shows the changes in the average number of species per 20m ditch section and in the total number of species recorded across the six conductivity ranges. The total numbers of species is comparable because the number of ditches in each category is large (between 173 and 331 ditches).

Figure 2 shows a progressive decrease in the average number of species with increasing conductivity, with the average number of all species showing a decrease from 10.6 species per 20m ditch section in freshwater ditches to 3.8 species in very brackish ones. However the trend is not uniform. In the midrange of conductivity (between 20 and 50 µScm^{-1} x 100) there is a noticeable rise in the average number of aquatic species, which then tails off rapidly at the upper end of the scale. This indicates that species diversity in brackish ditches is optimum in this mid-conductivity range, beyond which conditions become limiting. The dip in the average number of aquatic species in the 10 -19 µScm^{-1} x 100 conductivity range reflects a decline in the number and frequency of freshwater species, indicating that the salinity level is sufficient to prevent the success of some freshwater species, though it is not within the optimum range for brackish species.

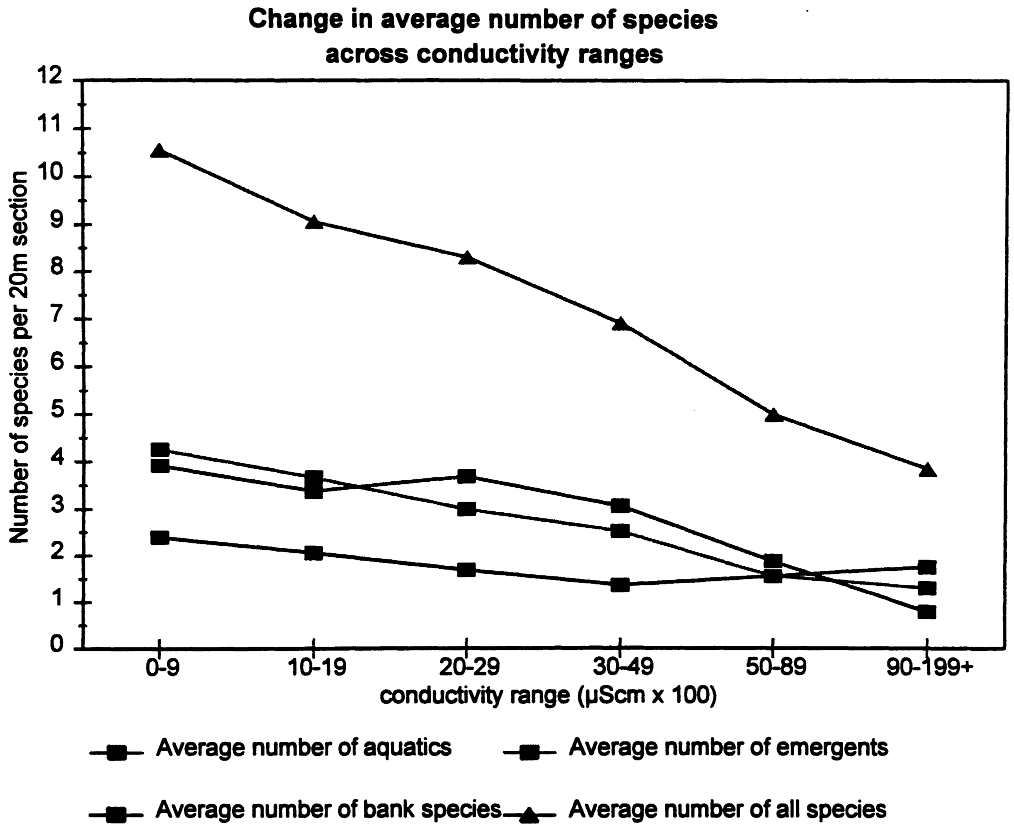


Figure 2

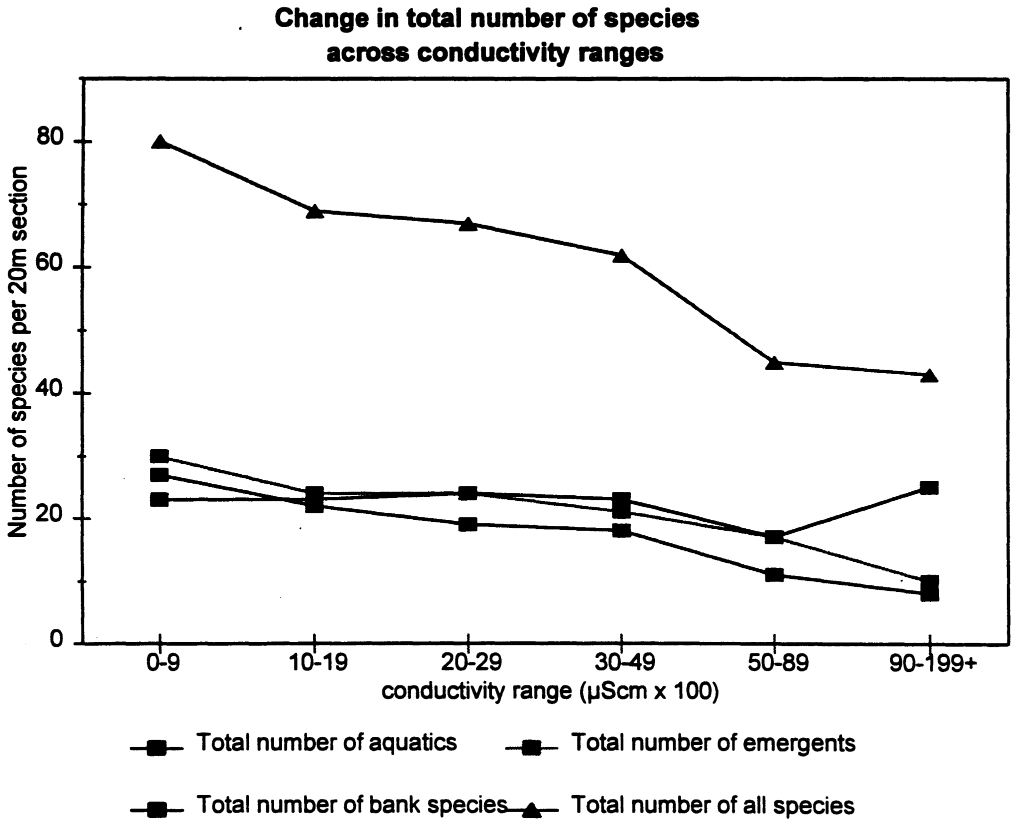


Figure 3

Another subtle alteration to the downward trend is shown in the average number of bank species, which declines steadily as conductivity rises to 50 μScm^{-1} x 100, but above this level starts to increase, as species more characteristic of upper salt marsh, such as *Juncus gerardii* and *Glaux maritima* become more frequent.

Changes in the frequency of individual species

The results show three main changes in the frequency of species across the conductivity scale. These are:-

- a steep decline in the frequency of freshwater species with increasing conductivity, for most aquatics this occurs above 10 μScm^{-1} x 100
- an increase in frequency of brackish species in the mid-conductivity range, for most aquatics this occurs between 20 and 50 μScm^{-1} x 100
- an increase in frequency of bank species associated with brackish ditches in the high conductivity ranges, above 50 μScm^{-1} x 100

Figures 4-13 show the changes in frequency of selected species across the conductivity ranges and illustrate these patterns. Several species however show a different pattern. *Potamogeton pectinatus* is the only aquatic species to show a continued increase in frequency with increasing conductivity. Similarly the emergent *Scirpus maritimus* increases to a plateau at the top of the conductivity scale. *Phragmites australis* fluctuates in frequency across the scale, and although it is most frequent in freshwater ditches it is tolerant of even the highest salinity.

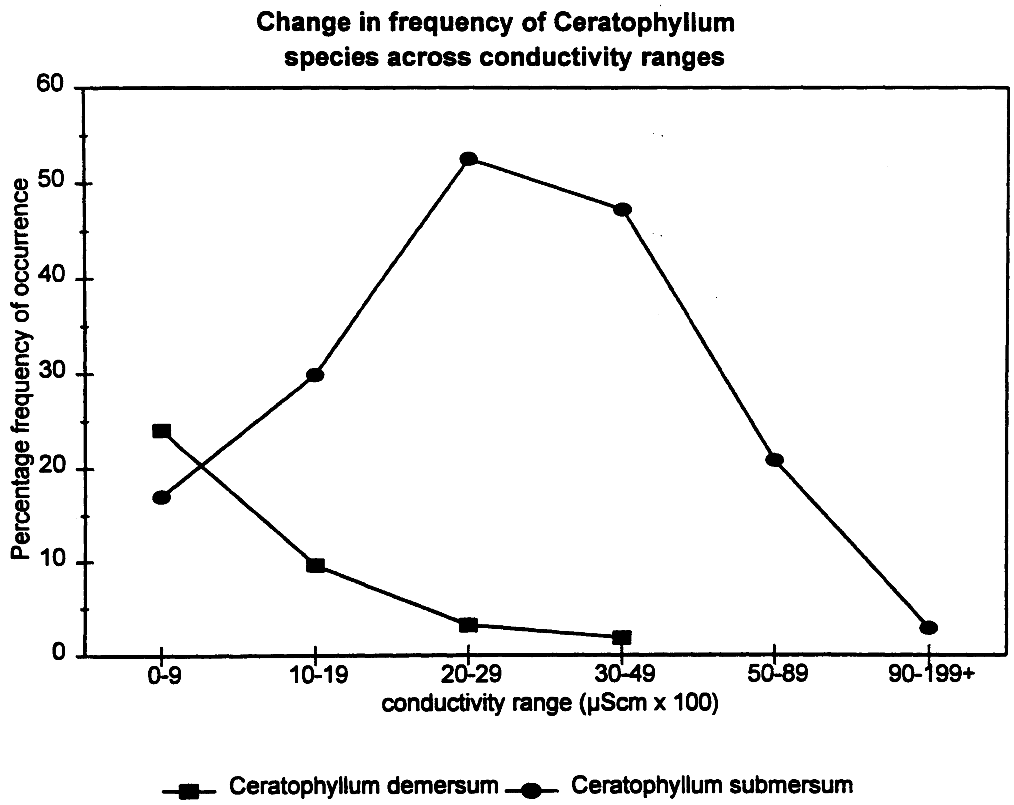


Figure 4

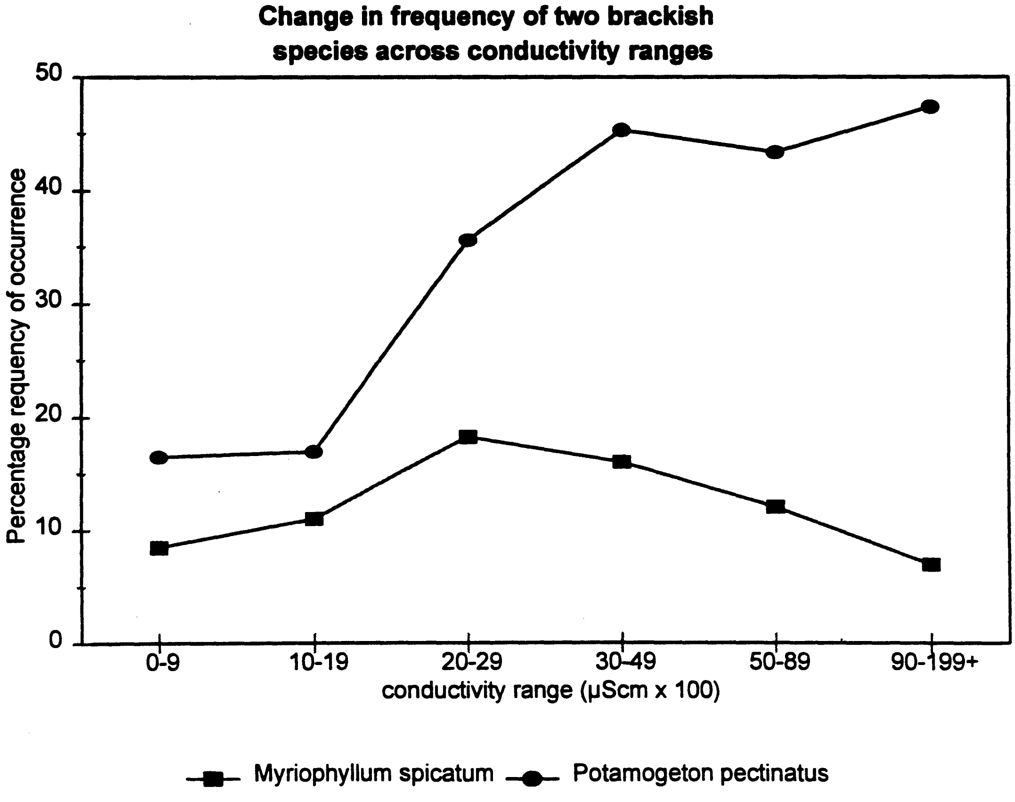


Figure 5

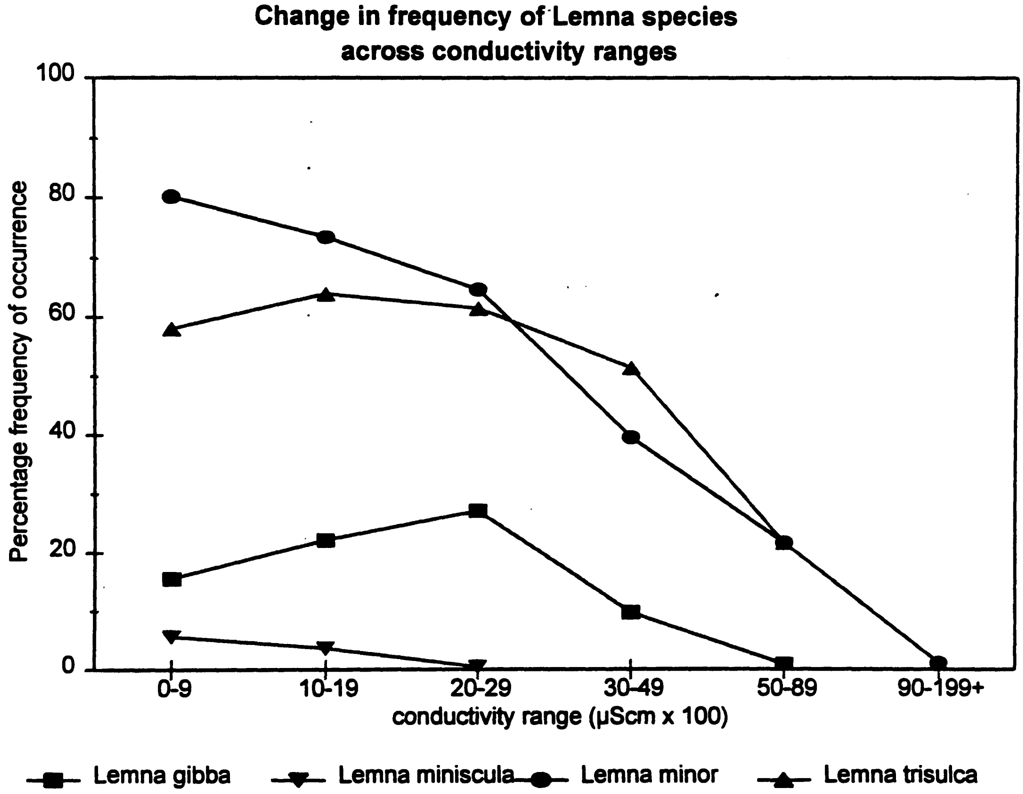


Figure 6

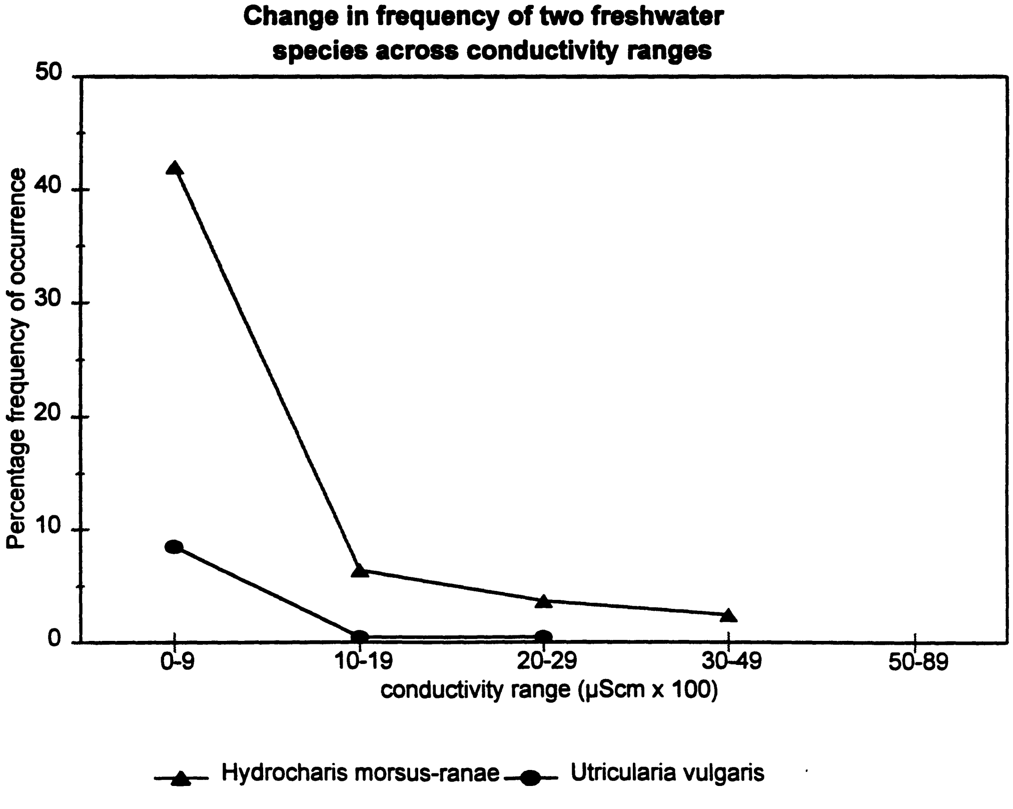


Figure 7

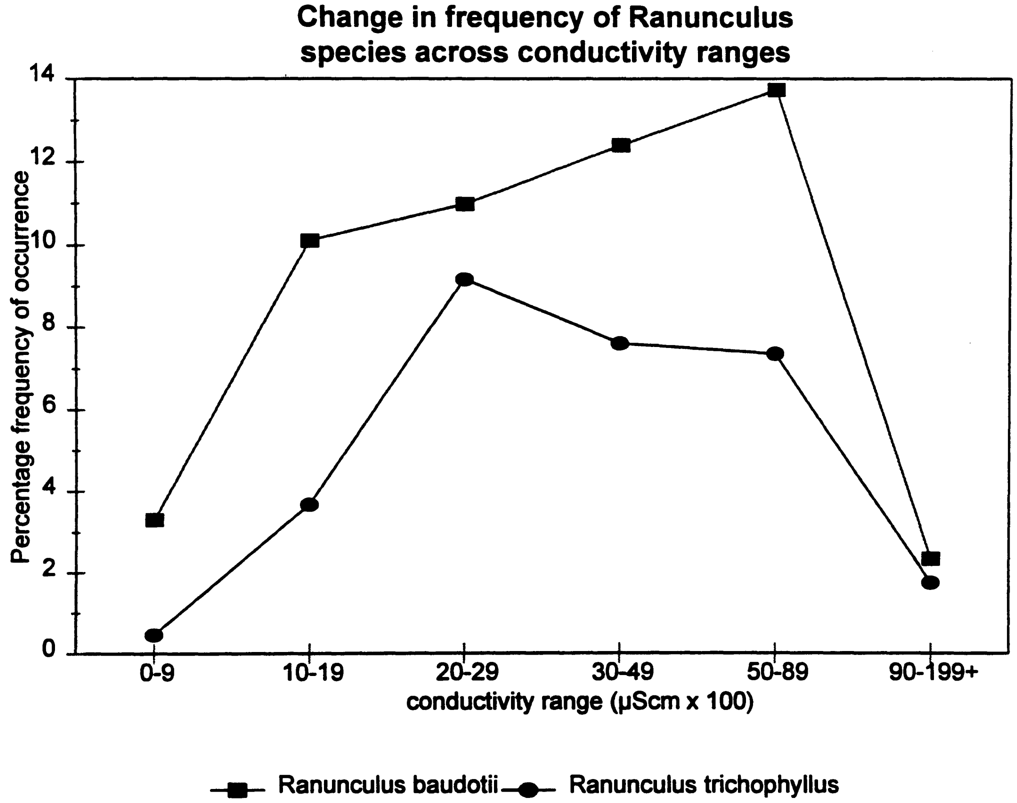


Figure 8

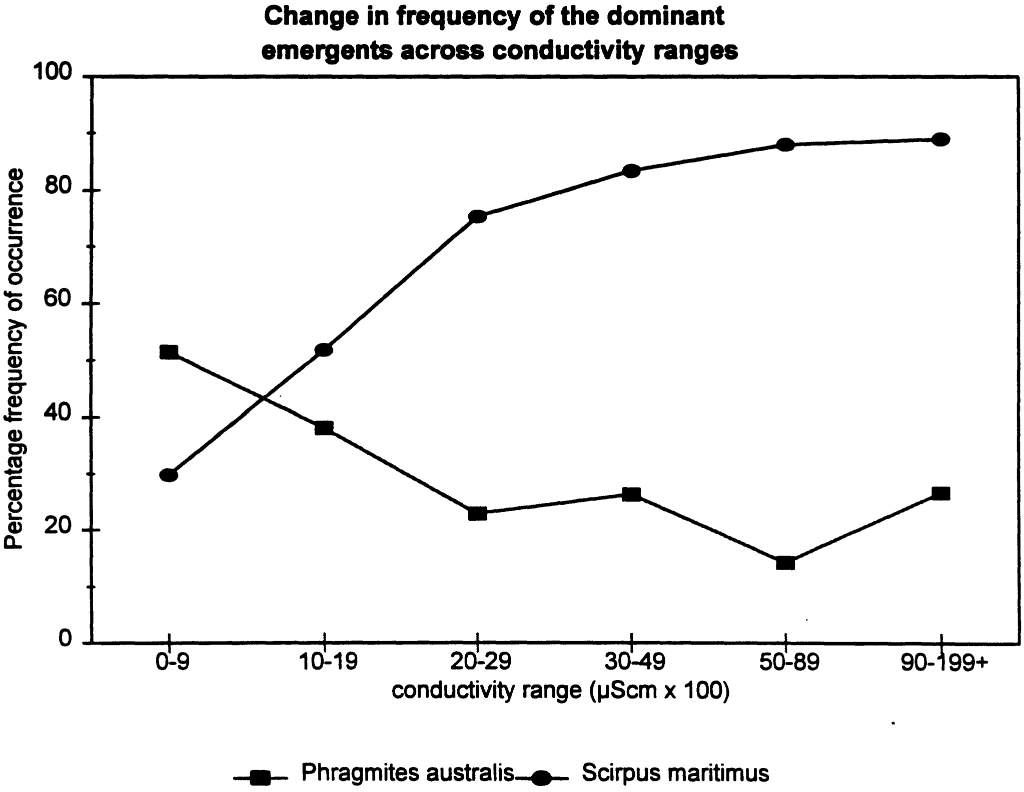


Figure 9

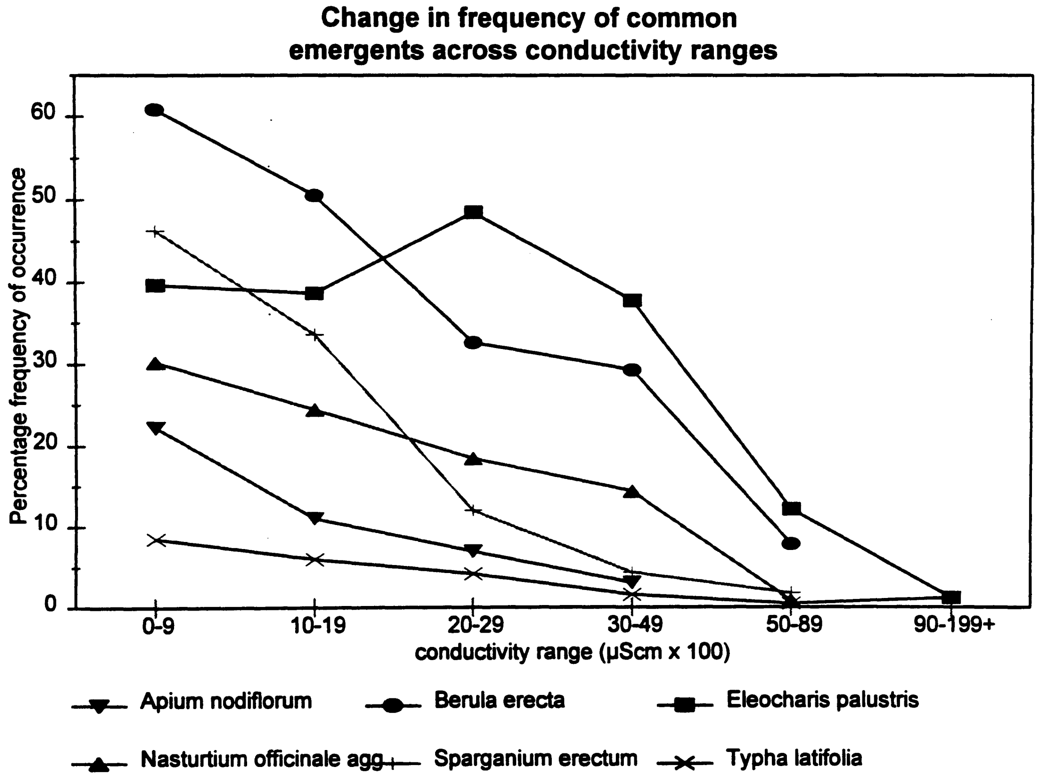


Figure 10

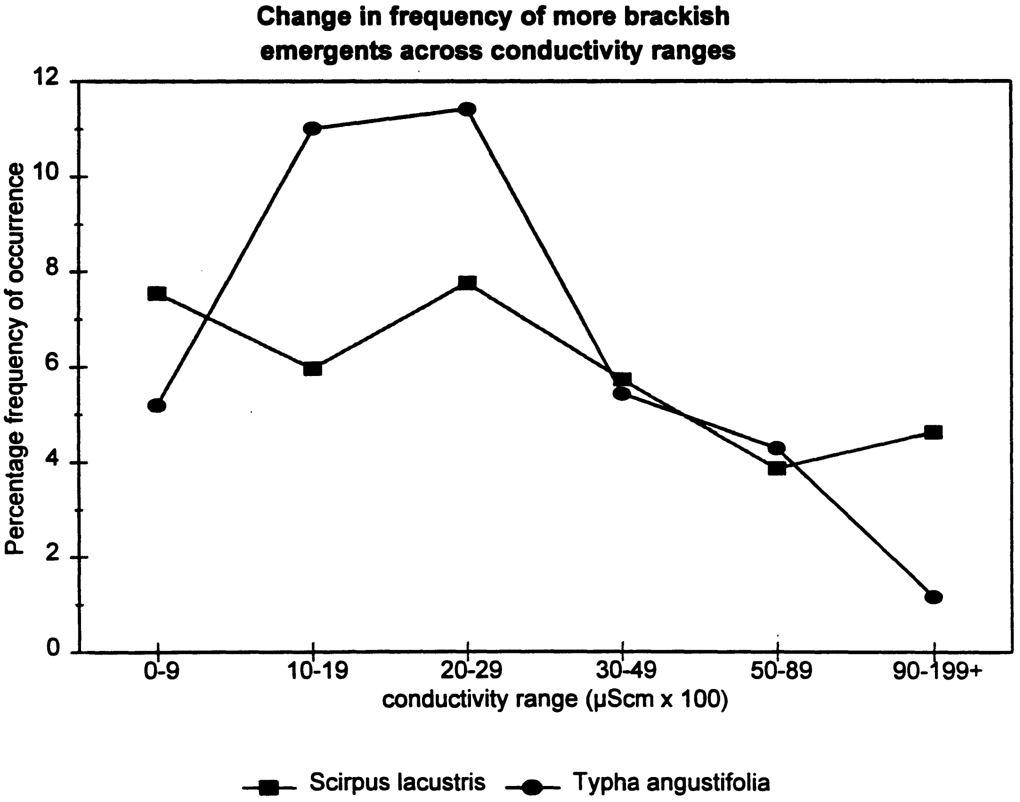


Figure 11

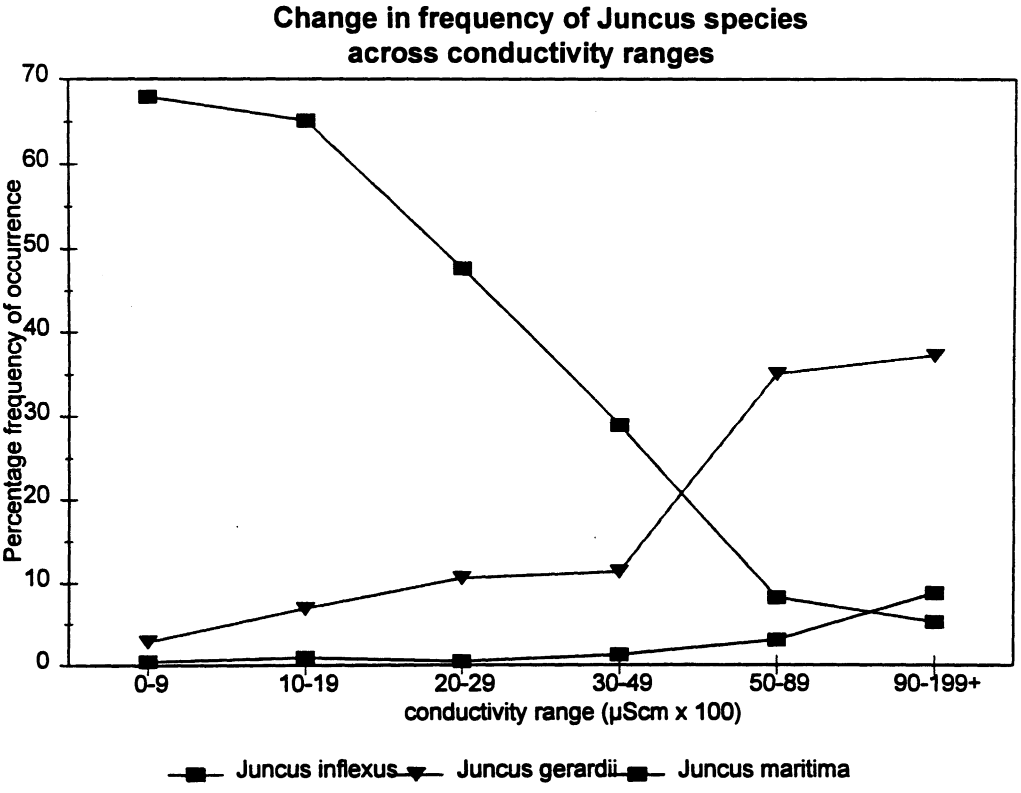


Figure 12

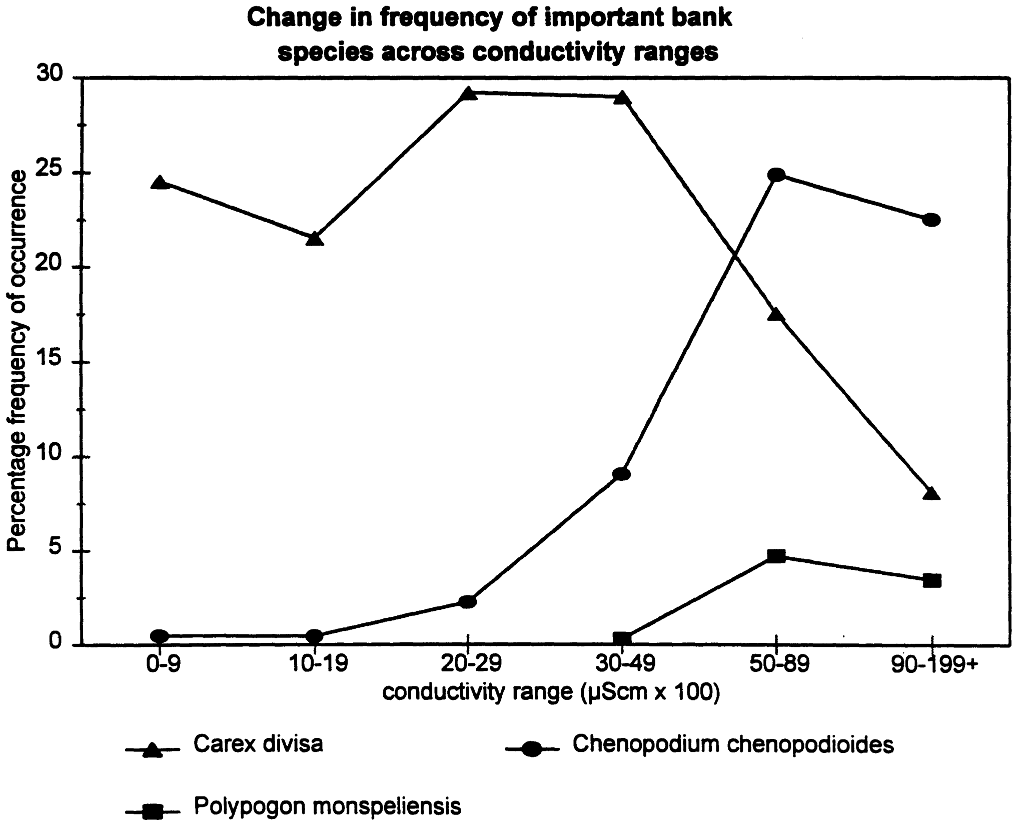


Figure 13

4.1.2 Floristic diversity and adjacent land use

In this analysis ditches have been combined into three conductivity bands, representing three ditch types; freshwater, brackish, and very brackish. For each ditch type (and overall) the ditches have then been compared with respect to three adjacent land use categories, in order to compare the floristic diversity between:-

- ditches in grazing pasture, with both sides of the ditch subject to grazing.
- ditches adjacent pasture, such as boundary ditches, where one side only of the ditch is subject to grazing.
- ditches outside grazing pasture, or protected along both sides from grazing by a fence and/or track.

Changes in the average and total number of species

Figures 14-17 shows the differences in the average number of species across the land use categories, for the three ditch types (the total number of species recorded is less useful because of the difference in the number of ditches in each land use category).

The figures show differences between the three ditch types in response to adjacent land use. In freshwater ditches, the overall average number of species is highest in pasture and lowest outside pasture, though there is an apparent slight increase in bank species in ditches adjacent to pasture. This indicates that in freshwater areas diversity is not increased by protecting ditches from grazing. Ungrazed ditches become dominated by species such as *Phragmites australis* more quickly.

In both the brackish and very brackish ditches, the overall average number of species is greatest in ditches adjacent pasture. In brackish ditches, the average number of emergent and bank species is higher in ditches adjacent rather than in pasture. However the differences are only slight and it is only possible to conclude that diversity is maintained or perhaps slightly enhanced in brackish ditches protected from grazing along one side. Compared to freshwater diversity is certainly *less* affected in brackish ditches by lack of grazing. In the very brackish ditches the average number of emergent species is highest outside pasture altogether. However, the average number of bank species is lowest in this land use category, and it is these species which are the principle interest in these very brackish ditches.

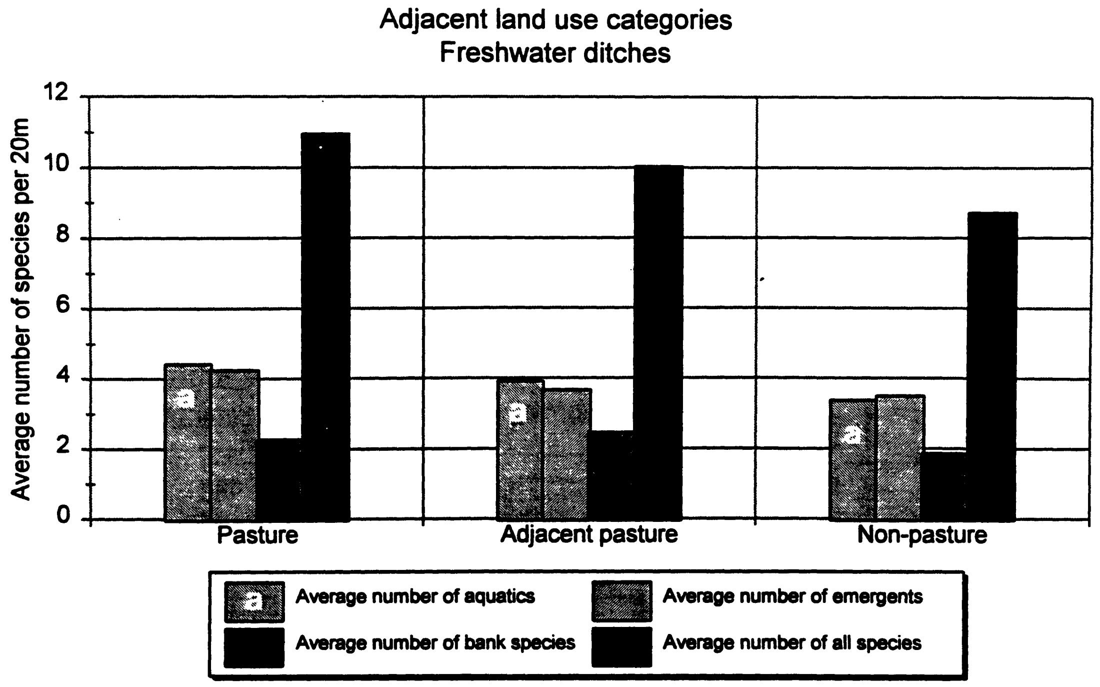


Figure 14

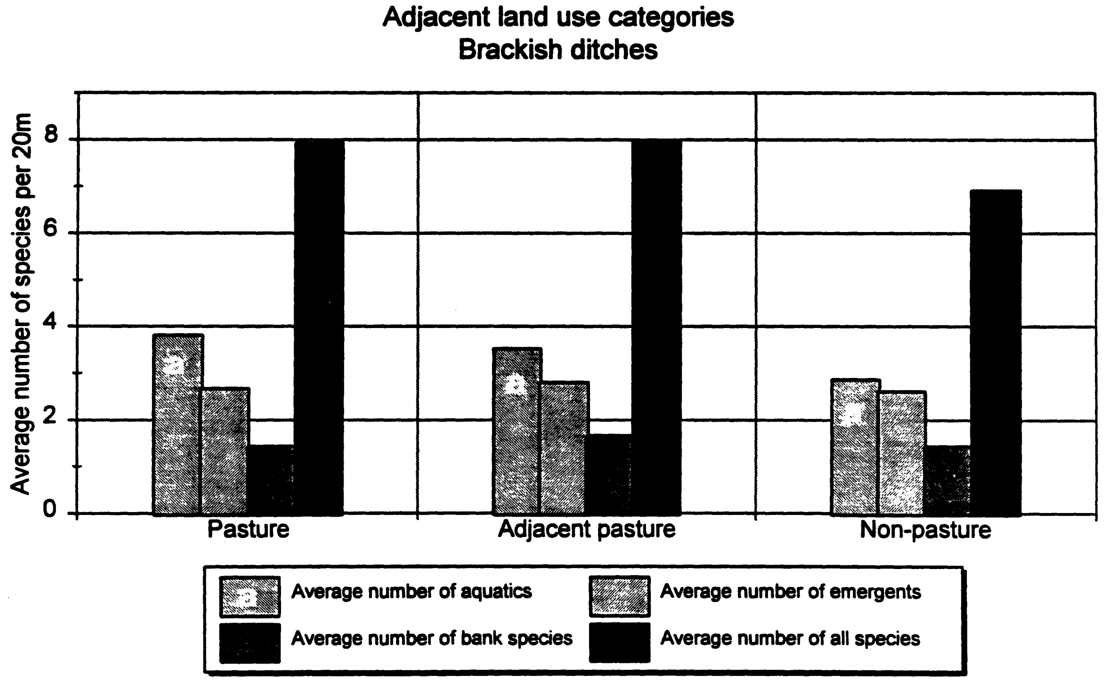


Figure 15

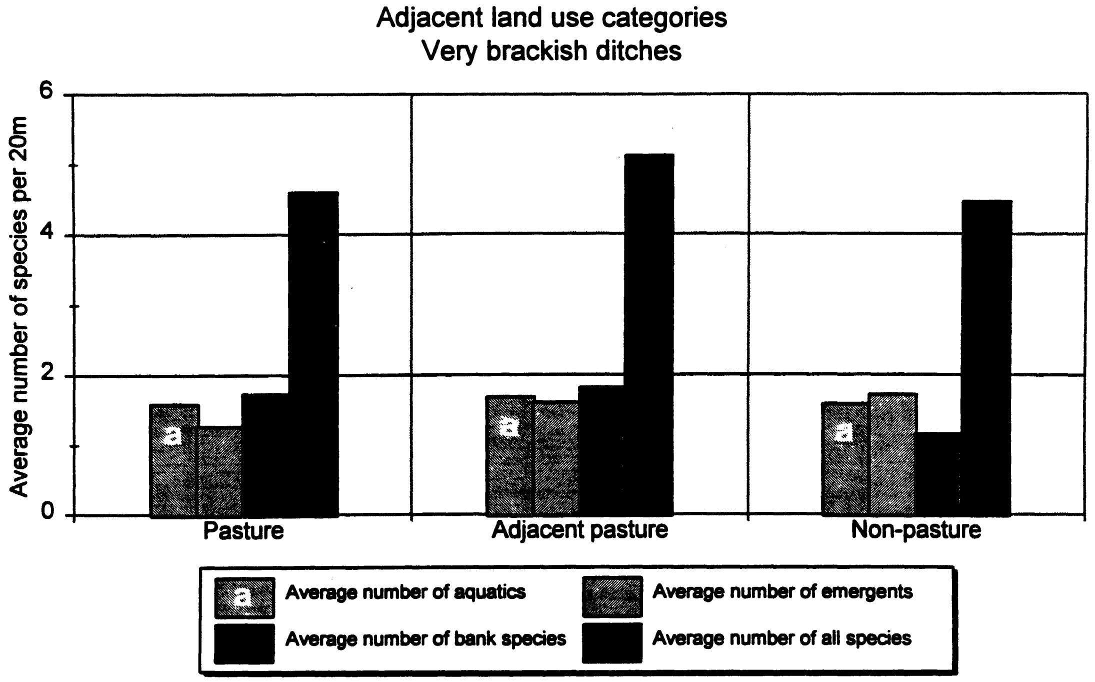


Figure 16

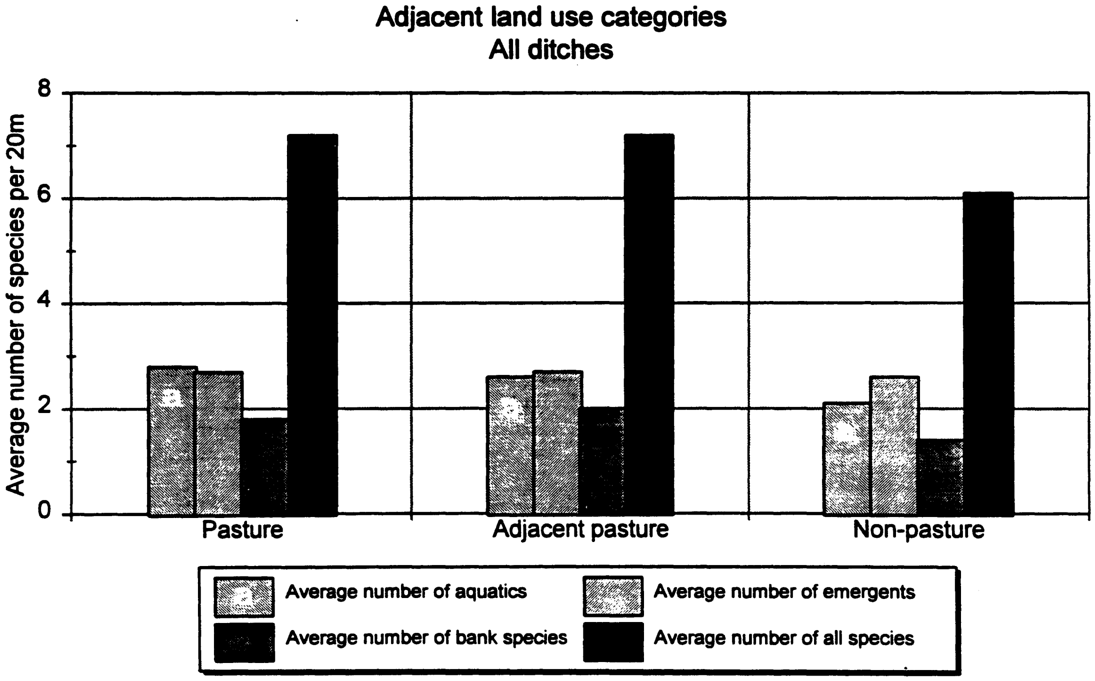


Figure 17

Bank species such as *Chenopodium chenopodioides* and *Polypogon monspeliensis* require poached muddy margins provided by grazing. The following figure shows the decline in frequency of important bank species across the three land use categories.

Figure 18

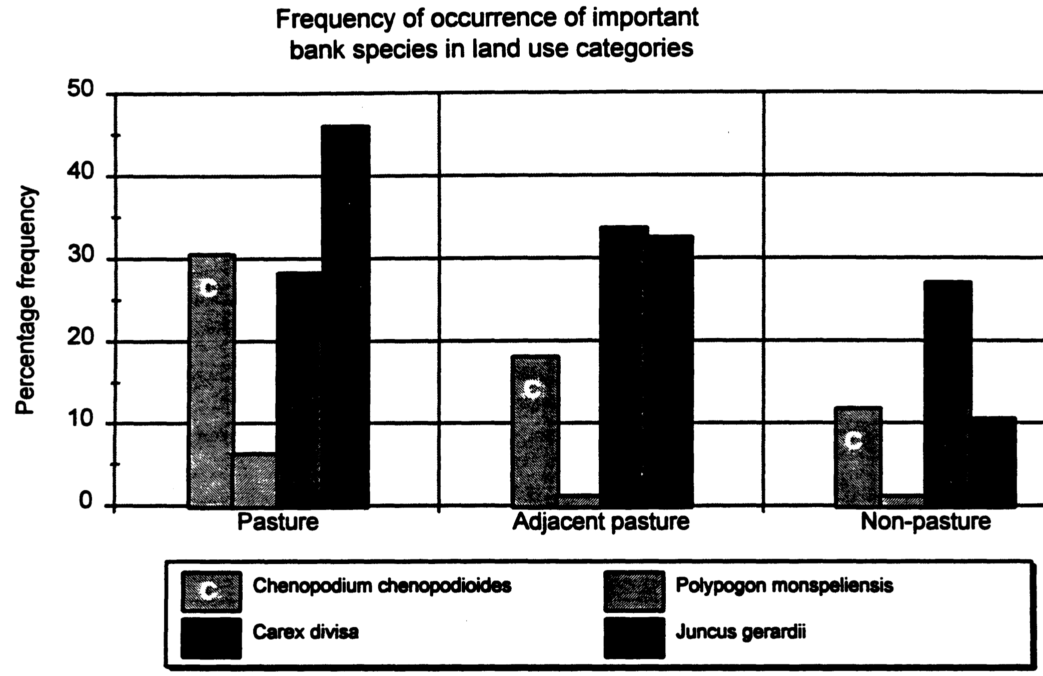


Table 6(b) & (c) in Section 3.8 show those species which show a difference of more than 9% in relation to land use.

4.1.3 Floristic differences between small and wide ditches

Again using the three ditch types, freshwater, brackish and very brackish, ditches have been compared with respect to two width categories; ditches between 1-5 metres wide and ditches greater than 5 metres wide.

Figures 19-22 below shows the changes in the average number of species per 20 metres between the two width categories, for the three ditch types and overall.

As with adjacent land use, the freshwater ditches show a different pattern in response to ditch width compared to the brackish ditches. In freshwater, the average number of species overall is marginally *higher* in the wider ditches, with the exception of bank species which are slightly less frequent along wider ditches.

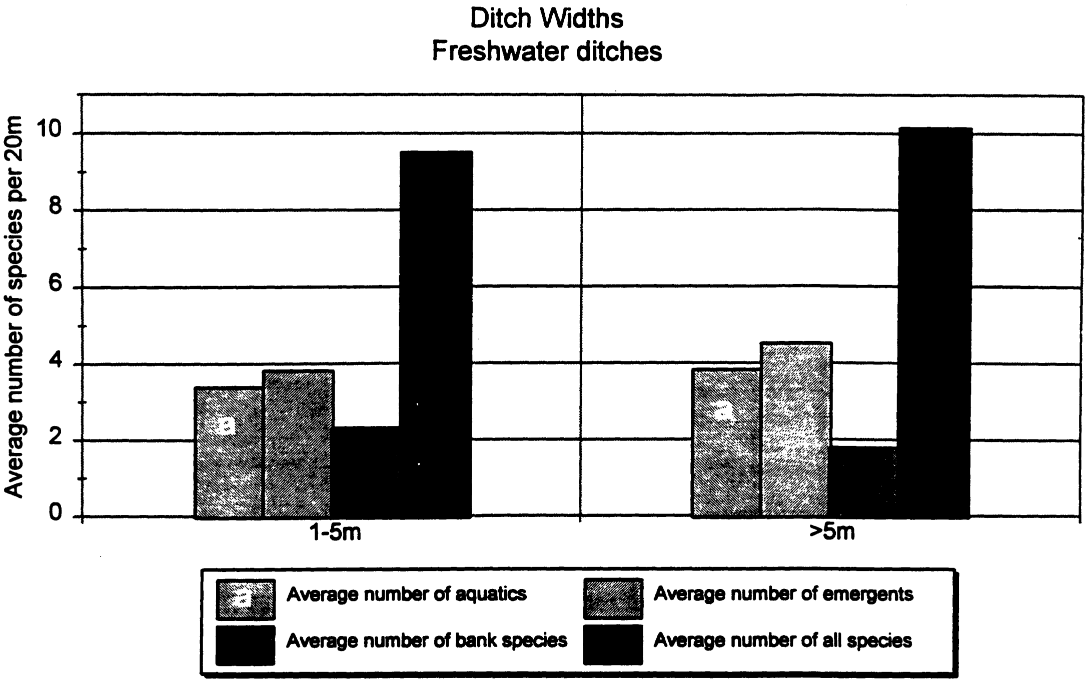


Figure 19

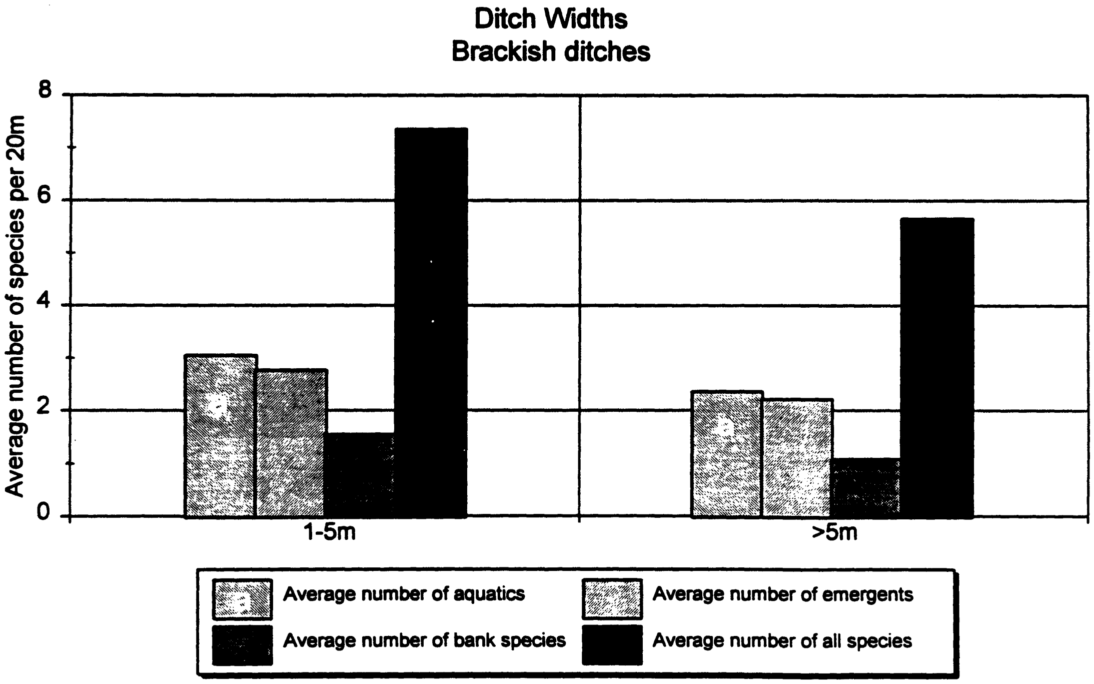


Figure 20

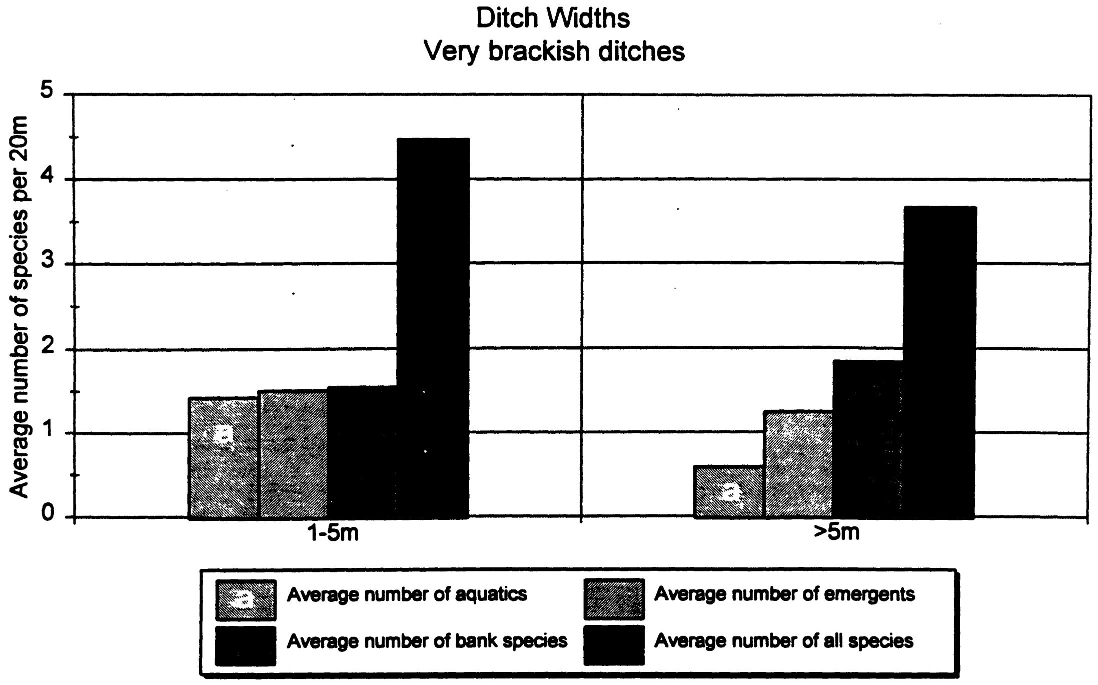


Figure 21

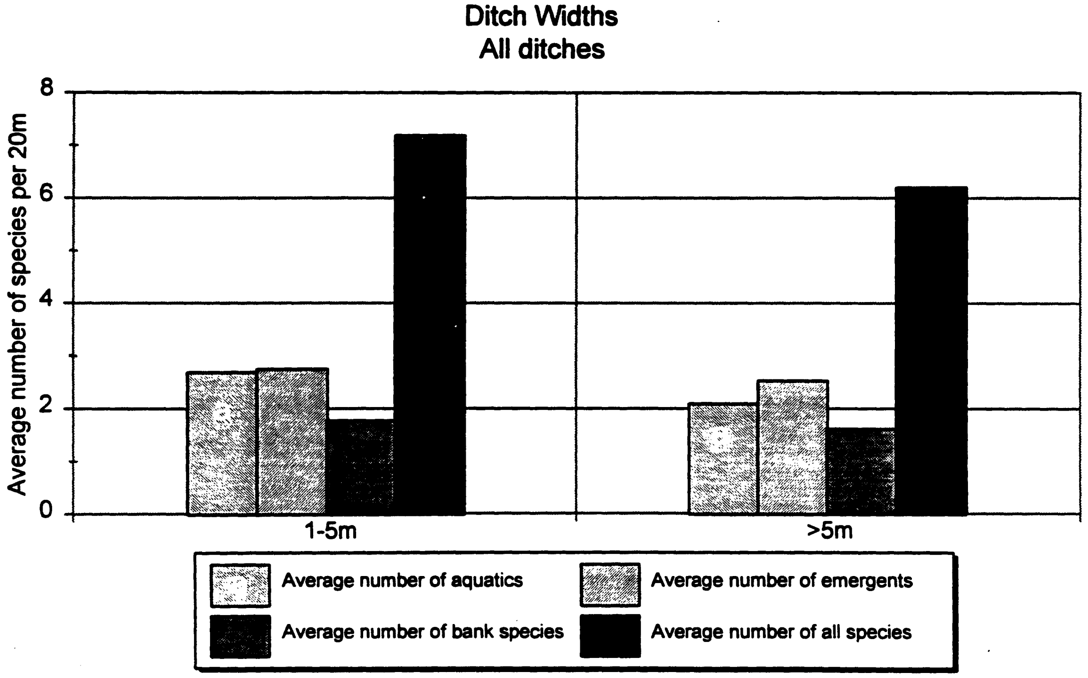


Figure 22

Wider ditches have a greater quantity of open water, though with perhaps less bank habitat as water levels are more stable. In brackish ditches, on the other hand, the average number of species overall is *lower* in the wider ditches, with the exception of bank species in very brackish ditches, which show a slight preference for wider ditches. This is the reverse pattern to freshwater ditches. The main reason for this is probably that the wider brackish ditches include the fleets adjacent to the seawall, which are notably species poor and often choked, unlike the freshwater main drainage ditches, though their drying margins provide good habitat for the important bank species.

Table 7(b) & (c) in Section 3.8 show those species which show a difference of more than 9% in relation to ditch width.

4.1.4 Physical characteristics in relation to ditch width and adjacent land use

Changes in the physical characteristics of ditches (frequency of dry ditches, choked ditches and scrub cover) in relation to ditch width and adjacent land use is fairly predictable. In summary the results show:-

- There is no difference in the proportion of dry ditches in each of the three land use categories, approximately 25% in each category, but there is a significant difference between small and wide ditches (27% compared to 9.6%).

- Scrub cover is most frequently associated with ditches adjacent to pasture, reflecting the predominance of scrub along boundary ditches. Overall ditches adjacent to pasture or excluded from pasture are twice as frequently choked than ditches in pasture (25% compared to 12%).

- Smaller ditches are more frequently choked and have a higher frequency of scrub cover than wider ditches. The difference between the two categories, however, decreases between freshwater and very brackish ditches, with only 1% difference in the very brackish ditches in the frequency of choked ditches.

- A greater proportion of freshwater ditches where recorded as choked or with scrub cover compared to brackish ditches, with smaller ditches adjacent pasture being the most affected group. In freshwater *Phragmites australis* is the dominant emergent, and is responsible for choked ditches in areas where management has been neglected.

4.2 Description of Areas

The SSSIs are described using the defined areas of contiguous grazing marsh. Reference to individual ownership blocks within these areas has been avoided, as this is relevant to the individual Site Management Statements produced for each owner. These contain a description of the ownership block based on the survey data.

SOUTH THAMES ESTUARY & MARSHES SSSI

Filborough, Shorne, and Higham Marshes

Nearly 50% of the ditches in Filborough, Shorne, and Higham Marshes occur in the lowest two conductivity ranges, with 26% in the two mid-conductivity ranges, and only 5% of ditches in the two higher conductivity ranges. Because of the predominance of freshwater ditches, the area has the highest species diversity for the site, with several notable species occurring only (or almost only) in this area. These include the aquatics *Hydrocharis morsus-ranae, Potamogeton crispus* and *Stratiotes aloides*, the emergents *Butomus umbellatus, Rumex hydrolapathum, Glyceria maxima* and *Iris pseudacorus*, and the bank species *Scutellaria galericulata* and *Triglochin palustre.* These are all freshwater species, but the characteristic brackish species are also present in the brackish ditches, with a small amount of the rare *Chenopodium chenopodioides* in the very brackish ditches.

The area is not however uniformly species-rich; most of the notable species occur within the central area of Higham and Shorne Marshes. The western side of Shorne Marshes is characterised by a high proportion of dry ditches and a large amount of scrub, which presumably grew up during a period of neglect, when the adjacent firing range was in use. The botanical interest here is limited mainly to the larger drainage channels, and these may have lowered the water levels in the smaller ditches when they were extended. Invasive alien species occur in the freshwater ditches along the southern boundary of Shorne Marshes, where *Lemna miniscula* is particularly dominant. Two other very invasive species, *Myriophyllum aquaticum* and *Crassula helmsii*, where recorded in adjacent ditches along this boundary. Filborough Marshes to the south of the railway is largely dominated by ditches with *Lemna spp,* though there are also several species-rich ditches. The ditches to the south of the railway at Higham are largely neglected and dominated by reeds, though one ditch in this area provides the only records for *Ranunculus circinatus, Sagittaria sagittifolia* and *Chara* sp.

Although the land use in this area is predominantly cattle and sheep pasture, approximately 25% is used for hay production, which is concentrated mainly in the northern half of Higham Marshes. A comparison of ditches in this particular area (Table 9 in Section 3.8) shows that the ditches within pasture contain on average 1.6 more species per 20m section than those in hay production, which are ungrazed in spring and early summer and are subject to more fertilizer input. The bank species are the most affected group, which reflects the lack of structure and poaching on the banks which grazing provides. Emergent species are overall slightly more frequent in ditches within hay production, though this is partly accounted for by a higher frequency of the dominant species *Scirpus maritimus* and *Phragmites australis*. Several important aquatic species, including *Hydrocharis morsus-ranae* and *Ceratophyllum demersum* appear to be noticeably less frequent in ditches within hay production, and a few aquatic species, including *Ceratophyllum submersum, Elodea nuttallii, Lemna gibba* and filamentous algae are more frequent. This may reflect a higher level of nutrients in these ditches, though such conclusions are uncertain because species distribution is influenced by several factors at once, including the element of chance.

Cliffe & Cooling Marshes

The majority of ditches in this area occur in the mid-conductivity range, with only 10% of ditches in the lowest two conductivity ranges. Brackish species show a peak of abundance in this mid-conductivity range, and the area contains a high proportion of species-rich brackish ditches, with aquatic species such as *Ceratophyllum submersum, Potamogeton pectinatus, Ranunculus baudotii,* and *Ranunculus trichophyllus* being particularly widespread and frequent. Other than *Scirpus maritimus*, which is very dominant, *Eleocharis palustris, Berula erecta* and *Oenanthe fistulosa* are the most frequent emergents. Other notable species include *Typha angustifolia, Veronica catenata* and *Hippuris vulgaris*. The bank species are the least well represented group in this area; this ties in with the fact that the average number of bank species is lowest in the mid-conductivity range. This is because the ditches are not fresh enough to support freshwater species nor brackish enough to provide habitat for the saltmarsh species associated with very brackish ditches. However adjacent land use is probably also an important factor; at just over 50% pasture accounts for a considerably smaller proportion of the land use compared to the other areas. Given that groups of horses are grazed in this area it is also possible that the pasture is not grazed in a way which provides structure to the banks.

Like Filborough, Shorne and Higham Marshes, hay production accounts for about 25% of the land use, though at Cliffe & Cooling the proportion of unmanaged ditches is almost double, at over 15%. This is accounted for mainly by a large unmanaged area in the northern half of Cliffe Marshes, once used as a munitions factory. A comparison of the ditches in this area (Table 10 in Section 3.8) shows that *Scirpus maritimus* is very dominant in the unmanaged area, and though all the important brackish species are still present in this area the average number of species is 2.8 species per 20m section fewer compared to pasture. The aquatic species are the most affected group, with less than half the average number of species in the unmanaged area compared to ditches in pasture. Unlike the situation at Higham Marshes, the frequency of bank species is no lower in the unmanaged area, though as already mentioned bank species are not well represented in this area. One bank species in particular, *Solanum dulcamara*, undoubtedly benefits from the lack of grazing.

Dry and choked ditches are concentrated across parts of Cooling Marsh, and this appears to be associated in part with hay production. Scrub is also dominant in an area at Cooling associated with small horse fields. Neglect of the ditches is a considerable problem in these areas, though the recent purchase of the western end of Cooling Marshes by the RSBP should effect better management.

Although 10% of ditches occurred in the freshwater range, few freshwater species were recorded in this area. *Hydrocharis morsus-ranae*, for example, is absent. The flora in the fresher ditches tends rather to include the brackish species frequent across the site, though *Sparganium erectum* and *Phragmites australis* are frequent in the fresher areas. The lack of freshwater species suggests that even the fresher ditches are subject to rises in salinity as water levels fall, with the exception of one or two entry points onto the grazing marsh for freshwater. A good example of this is shown at southwest end of Cooling Marshes, where freshwater flow onto the marsh provides a salinity gradient along a relatively short stretch of ditch (see Table 11 in Section 3.8).

Allhallows and Grain Marshes

In contrast to the other areas, the majority of ditches in this area occur in the two highest conductivity ranges, and water levels are also very low, with over 40% of ditches recorded as dry. Although this area was surveyed later in the season, during which time water levels would have fallen in relation to the other two areas, it is known to be a very dry area because of it's location on the Isle of Grain, where direct rainfall on the grazing marsh is the principle source of freshwater.

This area has more in common hydrologically and floristically with the Isle of Sheppey, rather than with the other parts of this SSSI.

Because of the high level of salinity, species diversity is very low, particularly with regard aquatic species, though one aquatic, *Zannichellia palustris*, is slightly more frequent in this area than in the other areas. The very brackish ditches are important however for their bank flora, which includes *Juncus gerardii,* the nationally scarce *Polypogon monspeliensis* and the nationally rare *Chenopodium chenopodioides*. These species also occur on the Isle of Sheppey, and these two areas form the main centre of distribution for both *Polypogon monspeliensis* and *Chenopodium chenopodioides*.

Although the area is predominantly very brackish, there is an inflow of freshwater from the southwest corner of the area, which gives rise to fresher ditches along the western boundary. These ditches contain some freshwater species, with one record for *Potamogeton crispus* and four records for *Berula erecta*.

Land use in this area is predominantly pasture, and this is important for ensuring suitable habitat on the banks for the important species, which require poached muddy margins and grazing to keep down more rigorous species.

MEDWAY ESTUARY & MARSHES SSSI AND THE SWALE SSSI

Graveney Marshes and Seasalter Level

Just over 40% of the ditches in this area occur in the lowest two conductivity ranges. Less than 20% of the ditches occur in the mid-conductivity range, and less than 5% in highest two conductivity ranges. This area therefore contains predominantly freshwater ditches, and 40% is an probably an underestimate, given that 33% of the ditches were recorded as dry, the majority of which were choked with *Phragmites australis*. Overall more than 50% of the ditches were recorded as choked, which indicates that management neglect is a problem in this area.

The high average number of species (7.3 per 20m ditch section) for this area indicates however that this is not the full picture. Just over 12% of the ditches are exceptionally species-rich, with 15 or more species recorded per 20m section. These are concentrated mainly in an area in the southwest corner of Graveney Marshes, which contains some of the best ditches on the North Kent Marshes. *Utricularia vulgaris* is particularly frequent in this area, occurring with a wide range of freshwater aquatic, emergent and bank species. The average number of species per ditch is nearer 10 species per 20m ditch section. This exceptional floristic diversity is limited by the extent of pure freshwater ditches ($<10\mu Scm^{-1}$ x 100) as much as by management, and this probably precludes most parts of the area except for the northern half of Seasalter Level, which has very fresh ditches and average number of 8 species per 20m section. By comparison with the southwest corner of Graveney this may indicate potential for improvement. An important record for Seasalter Level is the nationally scarce species *Oenanthe silaifolia*, which was recorded in six ditches only in this area.

The amount of grazed pasture in this area is relatively low compared to other areas of the SSSI. Over 25% of the land is in hay production, and nearly 15% is unmanaged. The abandonment of grazing across central parts of Graveney Marshes has resulted in a dominance of dry ditches choked with *Phragmites australis*, with the loss of botanical interest. However choked ditches also predominate in other parts of Graveney and Seasalter, both within pasture and areas of hay production, and seeking better management in these areas should take priority.

Ham Marshes to Milton Creek

Just over 45% of ditches within this extensive stretch of grazing marsh occur in the two lowest conductivity ranges, which is slightly higher than the proportion of freshwater ditches recorded at Graveney and Seasalter. However at 19% the proportion of dry ditches in this area is only half the figure for Graveney and Seasalter, and it is likely that overall the latter area contains a great proportion of freshwater ditches. Just over 20% of ditches in this area occur in the two mid-conductivity ranges and 12% in the highest two ranges.

Freshwater ditches occur right along the southern boundary of this area, though they are concentrated mainly at Luddenham Marshes and the southern end of Teynham Level, with some also at Oare Marshes and the southern end of Ham Marshes. *Hydrocharis morsus-ranae* is frequent in the freshwater ditches, with *Potamogeton crispus, Potamogeton natans* and *Utricularia vulgaris* also present. The uncommon species *Groenlandia densa* was recorded in two ditches, with one record at Teynham Level and the other at the extremity of the SSSI on the east side of Faversham Creek, opposite Ham Marshes. The nationally scarce species *Myriophyllum verticillatum* was recorded in three ditches (including one record from the 1993 survey), with two records at Teynham Level (along one main ditch) and two at Luddenham Marshes. Other notable records include *Veronica scutellata* at Luddenham Marshes, and *Veronica anagallis-aquatica* at Conyer Creek, though this particular plant appeared to be a hybrid with the *Veronica catenata*. It also appeared that hybridization *may* occur between *Berula erecta* and *Apium nodiflorum*, both of which commonly occur together in this area. Evidence for comes from flowering specimens of *Berula* which lacked the characteristic white ring at the base of the stem ~~South Thames Estuary & Marshes~~, and without the inflorescence these plants could not be distinguish from *Apium*. Other than on the south side of the Swale both *Berula* and *Apium* are either absent or infrequent elsewhere within the Swale SSSI.

Freshwater pumping at Teynham Level in operation during the time of survey appears to masks a higher level of salinity than the recorded conductivity values suggest. *Ceratophyllum submersum* is particularly dominant here, and though there are some freshwater species, including *Ceratophyllum demersum* and *Potamogeton crispus*, there is no *Hydrocharis morsus-ranae* in this area. This would appear to indicate sone brackish influence across the area. The main inflow of freshwater is along a large ditch on the southern boundary of the area, which retains a freshwater flora, with both *Myriophyllum verticillatum* and *Groenlandia densa* recorded in this ditch. It was noted that levels of algae in this ditch and in several other ditches were quite high, indicating nutrient enrichment. A possible source for this is the strip of arable land separating Teynham Level from Luddenham Marshes.

Brackish ditches are predominant along the seaward boundary and adjacent the guts and creeks. The dominant aquatic species are *Ceratophyllum submersum* and *Potamogeton pectinatus*, with other brackish species including *Myriophyllum spicatum, Ranunculus baudotii* and *Zannichellia palustris*. The very brackish ditches also have saltmarsh species such as *Juncus gerardii* and *Glaux maritima*, though *Chenopodium chenopodioides* is infrequent and *Polypogon monspeliensis* appears to be absent on the south side of the Swale.

The average number of species per 20m ditch section for this area is virtually the same as Graveney and Seasalter (7.5 species per 20m), and together the areas of grazing marsh along the south side of the Swale contain the highest proportion of species-rich ditches. The total number of species recorded between Ham Marshes and Milton Creek (70 species) represents nearly 80% of the total number of species in the SSSI, and in this respect this area is the most diverse within the SSSI.

80% of the adjacent land use in this area was recorded as pasture, with just over 5% hay, silage, or arable and under 10% unmanaged. Less than 25% of the ditches were recorded as choked, and as already noted less than 20% were dry. These figures indicate that the area overall is well managed and has a plentiful supply of water.

Chetney to Ridham Marshes

This area comprises predominantly brackish ditches, with 15% of ditches occurring in the lowest two conductivity ranges, 30% in the mid-conductivity ranges and 25% in the highest two conductivity ranges. A third of all ditches were dry, which reflects the overriding brackish nature of the area, with rainwater being the principle source of freshwater. The majority of ditches in the lowest conductivity ranges occur at Ridham Marshes, which is separated hydrologically from Chetney and Ferry Marshes by the A249 and has a slightly wider catchment area, though even here a high proportion of the ditches were dry. Elsewhere in this area freshwater ditches occur only along the southern boundary of Chetney and Ferry Marshes. However, most of the ditches with a lower conductivity contain little more than *Lemna spp*, and only one freshwater aquatic species, *Potamogeton crispus*, was recorded in this area, occurring in three ditches at Ridham Marshes. The freshwater emergent *Sparganium erectum* is slightly more widespread. The lack of freshwater species suggests that even in the fresher ditches salinity increases significantly at times.

Chetney and Ferry Marshes are both very brackish, with the characteristic brackish species *Potamogeton pectinatus, Ceratophyllum submersum* and *Myriophyllum spicatum* well represented across the area. *Scirpus maritimus* is very dominant, and across Chetney Marshes occurs in nearly every ditch. As with other very brackish areas, however, it is the bank species which represent the main botanical interest. The most frequent bank species is *Juncus gerardii*, with *Chenopodium chenopodioides* and *Carex divisa* also relatively frequent. Conductivity increases to its highest levels at the northern tip of the Chetney peninsula, where *Polypogon monspeliensis* also occurs on the banks. Other notable species include *Glaux maritima, Juncus maritima, Salicornia sp* and *Spergularia marina. Carex distans* is another notable species in this area.

The average number of species for this area (4.7 species per 20m ditch section) is very slightly higher than that for other very brackish areas, which reflects the greater proportion of ditches in the mid-conductivity range rather than the highest conductivity ranges. Just under 90% of the adjacent land use was recorded as pasture, with less than 10% unmanaged. Less than 10% of ditches were recorded as choked (these occurring mainly at Ferry Marshes) indicating that overall the ditches are well maintained.

Neatscourt to Spitend Marshes

Less than 5% of the ditches in this extensive area occur in the lowest two conductivity ranges. Nearly 25% occur in the mid-conductivity ranges, and nearly 50% in the highest two conductivity ranges. A third of all ditches were dry, which is consistent with the other very brackish areas. Such high levels of salinity across the whole of this area restrict the ditch flora to a limited number of more or less ubiquitous species, with an overall average of 4.2 species per 20m ditch section. *Potamogeton pectinatus* is the only ubiquitous aquatic species, with *Ceratophyllum submersum* and *Myriophyllum spicatum* much less frequent in the very brackish ditches. As in the other very brackish areas, the number of bank species exceeds the number of aquatic and emergent species, and these species constitute the main botanical interest in this area. *Juncus gerardii* is the most frequent bank species, but *Chenopodium chenopodioides* is also widely distributed and occurs in over 40% of the ditches, with *Carex divisa* and *Polypogon monspeliensis* also represented, the latter restricted to the very brackish ditches.

80% of the adjacent land use was recorded as pasture, 7% as hay and 11% unmanaged. Just 6% of the ditches were recorded as choked. Most of this area is managed for nature conservation, and the ditches are well maintained.

The Swale NNR and Capel Fleet

Just under 10% of the ditches in this area occur in the lowest two conductivity ranges. (Although this is a higher proportion than for Neatscourt to Spitend Marshes, it represents fewer than 10 ditches.) Just under 40% of ditches occur in the mid-conductivity range, and less than 20% in the highest two conductivity ranges. As in the other brackish areas, a third of all ditches were dry. Almost all the fresher ditches occur at the southern end of the Swale NNR, and the reserve overall is less brackish than Capel Fleet, which has very high salinity levels. Most of the dry ditches occur along Capel Fleet and down the western boundary of the reserve. Although the fresher ditches do not contain freshwater aquatic species, the freshwater emergent *Sparganium erectum* is fairly well distributed, and there are single records for the freshwater species *Ranunculus flammula* and *Lysimachia nummularia*. The characteristic brackish species, *Ceratophyllum submersum, Potamogeton pectinatus and Myriophyllum spicatum* are all frequent, with

Ranunculus baudotii and Zannichellia palustris also represented. The number of emergent species is limited, though the list includes *Hippuris vulgaris*. The number of bank species however almost equals the number of both aquatic and emergent species put together, and includes both freshwater and brackish species. *Chenopodium chenopodioides* was recorded in nearly 25% of the ditches, with *Juncus gerardii, Carex divisa, Glaux maritima, Juncus maritima,* and *Samolus valerandi* also represented. *Polypogon monspeliensis* was not recorded however. This species occurs only in very brackish areas, and appears to be restricted on Sheppey to the most brackish parts of Elmley Marshes.

Half the ditches along Capel Fleet were dry, with *Scirpus maritimus* very dominant. The eastern section is the more species-rich, with *Myriophyllum spicatum* notably frequent and *Zannichellia palustris* recorded in several ditches. *Chenopodium chenopodioides* occurs along the entire length of Capel Fleet, but within the reserve appears to be restricted to the more brackish northern end. Overall the average number of species in this area (4.7 species per 20m ditch section) matches the average for Chetney to Ridham Marshes, which has a similar proportion of brackish and very brackish ditches.

A relatively low proportion of the adjacent land use was recorded as pasture, 50%, with over 10% as arable and 33% unmanaged. This is accounted for largely by Capel Fleet, where most of the ditches are unmanged and form a boundary with arable land. Less than 10% of ditches were recorded as choked however, indicating that across the area as a whole the ditches are well maintained.

Barksore Marshes

This small area of grazing marsh is exceedingly brackish, with over 70% of the ditches occurring in the highest conductivity range, and less than 10% in the mid-conductivity range. At just over 20% the proportion of dry ditches is less than in other very brackish areas; most of the ditches are in fact large fleets. Only one aquatic species occurs in this area, *Potamogeton pectinatus,* and only two emergents, *Scirpus maritimus* and *Phragmites australis*, but a moderate number of bank species occur, including *Chenopodium chenopodioides*. The most frequent bank species are *Salicornia sp* and *Juncus gerardii.* The adjacent land use is more or less equally divided between pasture, arable and unmanged, ie. only a third of the ditches are subject to grazing.

Horsham Marsh and Motney Hill

Two thirds of the ditches in this area were dry at the time of survey. It is not possible therefore to accurately estimate the proportion of fresh and brackish ditches; in terms of numbers, however, 6 ditches at Horsham Marsh occurred in the lowest two conductivity ranges, 1 in the mid-conductivity range, and 4 in the highest conductivity range. At Motney Hill, the 4 ditches with water all occurred in the lowest two conductivity ranges. Here most of the ditches were dominated by *Phragmites australis*, though other freshwater emergents also occur, and all the ditches were unmanaged. Reeds in fact dominate this small area. Freshwater ditches at Horsham Marsh contain only one freshwater aquatic species, *Ceratophyllum demersum*, though several freshwater emergents also occur, including *Berula erecta,* which is mainly associated with fresher ditches. *Phragmites australis* is more common than *Scirpus maritimus*, which again suggests the area is predominantly fresh, with the very brackish ditches restricted to the northern end of the area and the fleet adjacent the seawall.

The number of aquatic species in this area is small, and the only brackish species present is *Ceratophyllum submersum.* There are a moderate number of emergents, but the bank species are the most diverse group, with both freshwater and brackish species. Freshwater species include *Juncus effusus*, which is slightly more frequent than *Juncus inflexus, Lycopus europaeus* and *Mentha aquatica*; the brackish species include *Chenopodium chenopodioides*, *Juncus gerardii, and Juncus maritima.*

Just over 75% of the adjacent land use was recorded as pasture, with just over 20% unmanaged, which is accounted for mainly by the unmanaged ditches at Motley Hill. Over 40% of ditches across the area were recorded as choked (with *Phragmites australis*), and these are mainly associated with the dry ditches. There is a need therefore for ditch clearance in this area, in order to maintain the freshwater flora.

Abbots Court, Kingsnorth and Stoke

The fragments of grazing marsh around the northern periphery of the Medway Estuary & Marshes Estuary are extremely brackish, with over 50% of ditches occurring in the highest conductivity range. All except 3% of the remaining ditches were dry. Just over 25% of the ditches were recorded as choked, with *Scirpus maritimus* (recorded in nearly 90% of the ditches) very dominant. The only frequent aquatic species is *Potamogeton pectinatus*, and as in other very brackish areas, the bank species are the most numerous group. *Carex divisa, Chenopodium chenopodioides*, and *Polypogon monspeliensis* are all present, though all three do not occur in both fragments of grazing marsh. There is one record for *Iris pseudacorus* at Kingsnorth, and another for the non-native *Nymphoides peltata* at Stoke, where it was introduced by an angling club and now dominates a wide fleet.

4.2.3 **Diggs and Sheppey Court Marshes SNCI**

This site comprises an area of grazing marsh between Queenborough and Sheerness on the Isle of Sheppey. Like other areas of grazing marsh on Sheppey, the ditches are essentially very brackish, though in this area salinity levels are reduced by a supply of fresh water from a main drainage ditch which flows along the southern boundary of the site. The water level in this ditch is maintained at a high level in order to supply water to the grazing marsh, which is causing serious erosion of the banks. Otherwise the grazing marsh is well managed and the ditches well maintained.

The characteristic brackish species, *Ceratophyllum submersum, Potamogeton pectinatus,* and *Myriophyllum spicatum* are all fairly frequent across the site. A few freshwater species also occur in fresher ditches, including *Ceratophyllum demersum, Elodea nuttallii, Nymphaea alba* and *Typha latifolia.* The bank species reflect the essentially brackish nature of the grazing marsh, with *Carex divisa* and *Juncus gerardii* the most frequent species. *Chenopodium chenopodioides, Glaux maritima* and *Juncus maritima* are also present.

4.3 **Assessment of areas against SSSI selection criteria**

In line with SSSI selection criteria freshwater ditches are considered **exceptional** if they contain 15 or more aquatic, emergent and wet bank species and **good** if they contain between 10 and 14 species per 20 metres. For brackish ditches, which are inherently less species-rich, **exceptional** ditches contain 10 or more species and **good** ditches between 6 and 9 species per 20 metres. (Guidelines for the selection of biological SSSIs, section 5.2.2).

Generally, to qualify for selection as an SSSI on botanical grounds alone at least 50% of wet ditches in a complex should rate as "good" or "exceptional". Thus in freshwater areas 50% of the ditches should contain 10 or more species, or 6 or more species in brackish areas. These guidelines, which relate to lowland eutrophic systems such as Pevensey Levels and the Somerset Levels, are less appropriate on sites like the North Kent Marshes where the high salinity gradient greatly reduces the diversity of the ditch communities. Although very brackish ditches are inherently extremely species-poor, the occurrence of nationally rare and scarce species on the banks outweighs the lack of diversity within the ditches.

In comparing and assessing areas, therefore, the ditches have been divided (on the basis of conductivity values) into three types; freshwater, brackish and very brackish. Although the very brackish ditches cannot be expected to meet the SSSI selection criteria on diversity, they can still qualify on botanical grounds if the number of rare or scarce species gives a score of 200 points or more (nationally rare species score 100, and nationally scarce species 50 points).

Table 12 below uses the following criteria to compare and assess the areas against the SSSI selection criteria. Areas which qualify on botanical grounds are underlined, as are the criteria by which they qualify.

1 The proportion of wet freshwater ditches (<20μScm^{-1} x 100) with 10 or more species.
2 The proportion of wet brackish ditches (>20 <50μScm^{-1} x 100) with 6 or more species.
3 The proportion of wet very brackish ditches (>49μScm^{-1} x 100)with 6 or more species (for comparison).
4 The score for the number of rare or scarce species in the area.

AREA	1	2	3	4
Filborough, Shorne, Higham Marshes	48.7%	90.5%		200
Cliffe & Cooling Marshes	44.7%	76.5%	31.9%	200
Allhallows and Grain Marshes			12.8%	200
Graveney Marshes and Seasalter Level	69.0%	58.3%		100
Ham Marshes to Milton Creek	55.3%	69.1%	37.5%	200
Capel Fleet and the Swale NNR		32.3%	10.0%	150
Neatscourt to Spitend Marshes		43.9%	28.2%	200
Chetney to Ridham Marshes	26.9%	41.2%	13.9%	200
Barksore Marshes				150
Horsham Marsh				100
Abbots Court/Kingsnorth/Stoke*				200

* Qualifies on species criteria only when the two fragments are considered together.
Percentage not recorded where the number of ditches in a category is less than 20.
Rare and scarce plants on seawalls etc. not included.

This table shows that only four areas of grazing marsh within the North Kent Marshes SSSIs meet the selection criteria for lowland ditch systems with regard the diversity of ditch flora. The two areas within South Thames Estuary & Marshes SSSI represent the majority of the site, excluding only the grazing marsh on the Isle of Grain. The two areas within The Swale SSSI representing grazing marsh on the south side of the Swale from Seasalter and Graveney to Milton Creek.

Most of the ditches in the diverse areas are concentrated within the fresh to mid-conductivity range, where species diversity is at its highest. The majority of the less diverse areas are by contrast predominantly very brackish, and the ditches are inherently very species-poor. This relates to the fact that most of the areas with a low diversity, such as on the Isle of Grain, the Chetney peninsula, and across the Isle of Sheppey, are hydrological isolated (direct rainfall being the only or principle source of freshwater) whereas the diverse and fresher areas, connected to the mainland, have a wider catchment and a better supply of fresh water.

While the very brackish areas of grazing marsh do not (and cannot be expected to) meet the diversity criteria, most of them still qualify on botanical grounds because of the presence of scarce and rare species along the banks of the ditches. This is an important distinction, because where the qualifying criteria is species rather than diversity, retaining water in the ditches is not as important as maintaining muddy margins suitable for colonisation by the rare and scarce species. The high proportion of dry ditches in very brackish areas need not be regarded as a management problem, rather the very consistent proportion of dry ditches (approximately 30%) suggests that seasonal drying out is an altogether characteristic feature of very brackish grazing marsh. Dry ditches are however a concern in areas which have a diverse ditch flora, and a high proportion of dry ditches in the fresher areas indicates a lack of management, with a high proportion also choked with emergents.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Overview of the North Kent Marshes SSSIs

The results of this survey provide a comprehensive picture of the botanical interest of the ditches in the North Kent Marshes SSSIs. The overall conclusions to be drawn from the discussion are:

1. About 50% of the total area of SSSI qualifies on botanical grounds in terms of the diversity of ditch flora alone. The areas of grazing marsh with more diverse ditches all have catchment areas which extend beyond the boundary of the grazing marsh. The better supply of freshwater maintains higher water levels and reduces the salinity level, producing conditions which are overall more favourable for both freshwater and brackish species.

2. A further 45% of the total area qualifies on botanical grounds because of the presence of rare and scarce species along the ditch banks, rather than species diversity. Both the nationally rare *Chenopodium chenopodioides* and the nationally scarce *Polypogon monspeliensis* are restricted to the very brackish areas, where a third of the ditches dry out in summer and diversity is limited by the severe salinity gradient. These areas are all hydrologically isolated by their location.

3. Only 5% of the total area of grazing marsh does not qualify on botanical grounds alone, though this does not mean they have no floristic interest. (A census of rare and scarce species on the seawalls etc. may enable these areas to qualify.)

4. Nutrient enrichment of ditches does not appear to be a problem on the North Kent Marshes SSSI's; although filamentous algae was frequently recorded dominance by this species or *Enteromorpha* was rare. There are one or two localised problems, for example at the eastern edge of Teynham Level, where the adjacent strip of arable may be causing enrichment of several of the ditches.

5. A broad analysis of land use with respect to floristic diversity shows that ditches within pasture are overall more diverse compared to those not subject to grazing. A specific comparison of ditches in an area of hay production shows that even these ditches, which are ungrazed in spring and early summer, are slightly less diverse than neighbouring ditches within

pasture, particularly with regard aquatic and bank species. In the very brackish areas grazing is particularly important for producing the poached muddy margins required by the important bank species.

6. As we would expect, unmanaged ditches are the least floristically diverse. Land management problems such as lack of ditch clearance and/or grazing are however restricted mainly to the fresher areas, where neglected ditches more rapidly become choked with reeds and dry out. The following areas with management problems have been highlighted by the survey.

South Thames Estuary & Marshes SSSI :

- The eastern side of Shorne Marshes has a high proportion of dry ditches associated with much scrub.
- Many ditches south of the railway at Higham Marshes are choked and dry.
- The eastern corner of Higham Marshes has dry ditches associated with scrub.
- Cooling Marshes has a high proportion of choked and dry ditches. Scrub is also a problem in the central area.
- The northern part of Cliffe Marshes is at present undermanaged.

Medway Estuary & Marshes SSSI and The Swale SSSI:

- The central and western parts of Graveney Marshes are dominated by choked and dry ditches. Grazing has been abandoned across the central area of Graveney Marshes.
- The southern half of Seasalter Level is dominated by choked and dry ditches.
- Choked and dry ditches dominate the south west corner of Luddenham Marshes.
- A few ditches adjacent arable land at the eastern edge of Teynham Marshes appear to be nutrient enriched.
- The land and ditches at Milton Creek is unmanaged. Between Milton Creek and Conyer Creek the ditches are choked along the southern boundary.
- Ferry Marshes contains a high proportion of dry and choked ditches.
- The southern half of Horsham Marsh is dominated by dry and choked ditches. Choked ditches also dominate Motney Hill, but these ditches lie within an unmanaged reed bed.

5.2 Grazing marsh outside the SSSIs

About a third of the ditches surveyed in 1993 lay outside the SSSIs, mainly in converted arable land. These areas are not floristically diverse and their exclusion from the SSSI is correct, though their conversion back to grazing marsh would be a worthwhile long term objective. The area of non-SSSI grazing marsh surveyed in 1995, the SNCI site Diggs and Sheppey Court Marshes, is floristically comparable to grazing marsh elsewhere on the Isle of Sheppey and should be considered as a possible extension to The Swale SSSI in a future reassessment of the boundary.

5.3 Boundary modifications to the SSSIs

The SSSI boundary appears to accurately reflect the conservation interest in most areas. There are small areas which could be deleted, for example small corner fields or neglected areas which do not at present contribute to the interest of the site, but such considerations should be left to a future reassessment of the SSSI boundary. The only inaccuracies where grazing marsh is excluded from the SSSIs occur along the southern boundary of The Swale SSSI, where in places the present boundary excludes bits of the southern margin of the grazing marsh. An example of this occurs at Oare Marshes, where a well managed part of the KTNC reserve is erroneously excluded. However most of the excluded areas may have been arable fields which have subsequently been brought back to pasture.

5.4 Key Recommendations

1. The results of this survey provides the basis for describing and setting management objectives for ditch flora in Site Management Statements. The objectives for floristically diverse areas of grazing marsh should include maintaining and enhancing the diversity of species, as well as protecting rare and scarce species. In very brackish areas, where ditches are inherently less diverse, the prime objective should be to promote the rare and scarce bank species which require poached muddy margins along the ditches. These two objectives result in different management needs.

2. In all areas *grazing* is the most appropriate management. Hay production has the least affect on diversity, but this management adversely affects bank species and should be discouraged in the very brackish areas, where such species constitute the main interest. Hay production should also be

discouraged in areas of exceptional diversity, which may suffer from nutrient enrichment.

3. In areas where too many of the ditches are choked, priority should be given to clearing ditches within existing pasture, as these ditches will recolonise more quickly and remain clear longer than ungrazed ditches. The priority in areas where grazing has ceased is to re-establish grazing, as without it ditch maintenance is not as effective.

4. The areas which do not meet the selection criteria on botanical grounds should not be considered as having no floristic interest. These areas are either very brackish and lack one or two of the rare or scarce species found elsewhere, or, as in the case of Horsham Marsh, would improve if more of the ditches were cleared out.

5. This survey provides a comprehensive baseline for future monitoring of site condition. The survey should be repeated, at least in areas with costly Management Agreements, or where management has changed, after an interval of ten years.

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A SURVEY OF DITCH FLORA IN THE NORTH KENT MARSHES SSSIs
1995

APPENDIX 1

SAMPLE DATA TABLES AND MAPS

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REPORT PRODUCED BY:-

Phil Williams
January 1996

Survey Carried out by English Nature, co-funded by the National Rivers Authority

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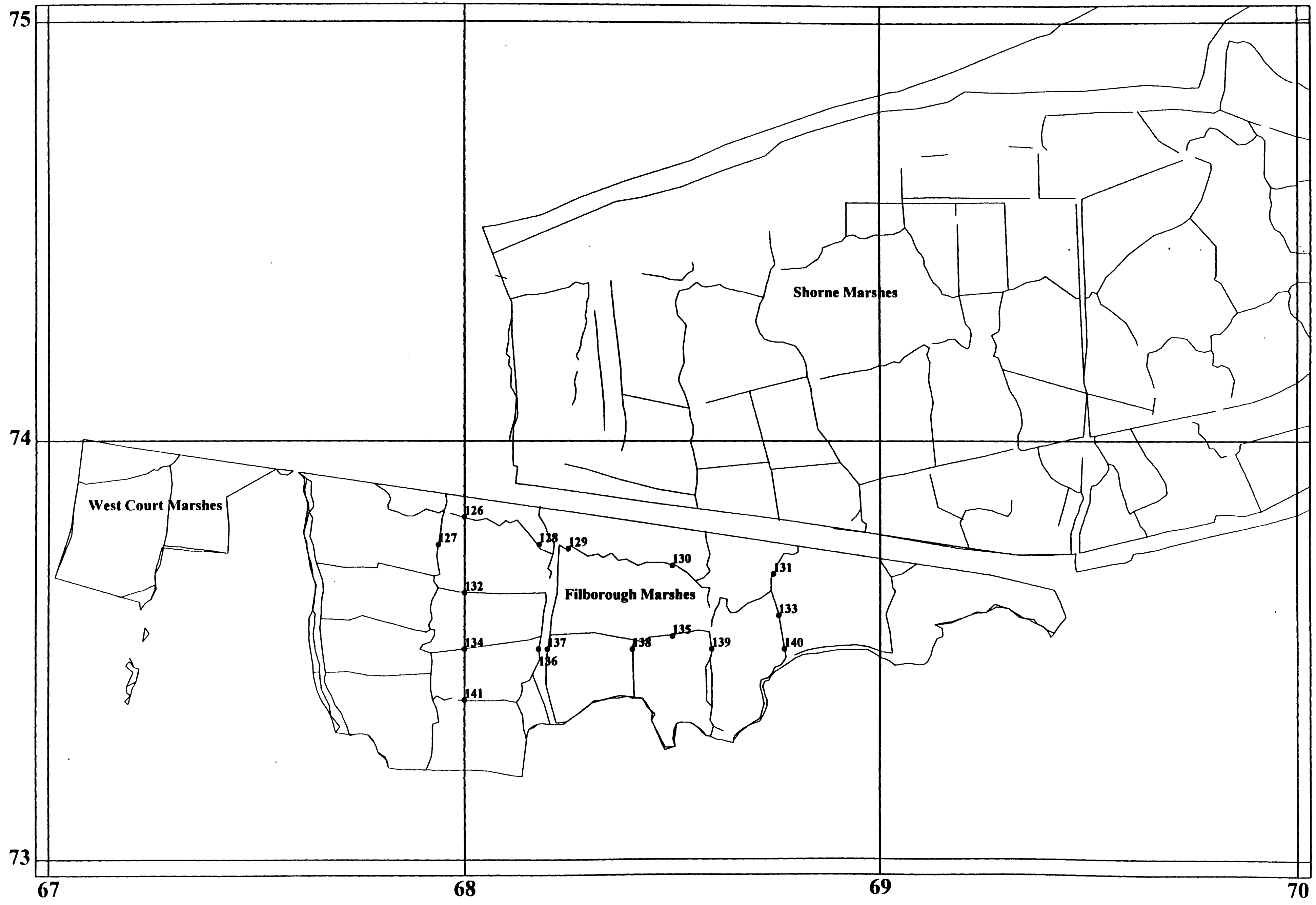
DIGGS AND SHEPPEY COURT MARSHES SNCI

- MAP AND SAMPLE DATA TABLE

GRID REFERENCES FOR DITCH NUMBERS

North Kent Marshes 1993 survey - Sample ditch numbers



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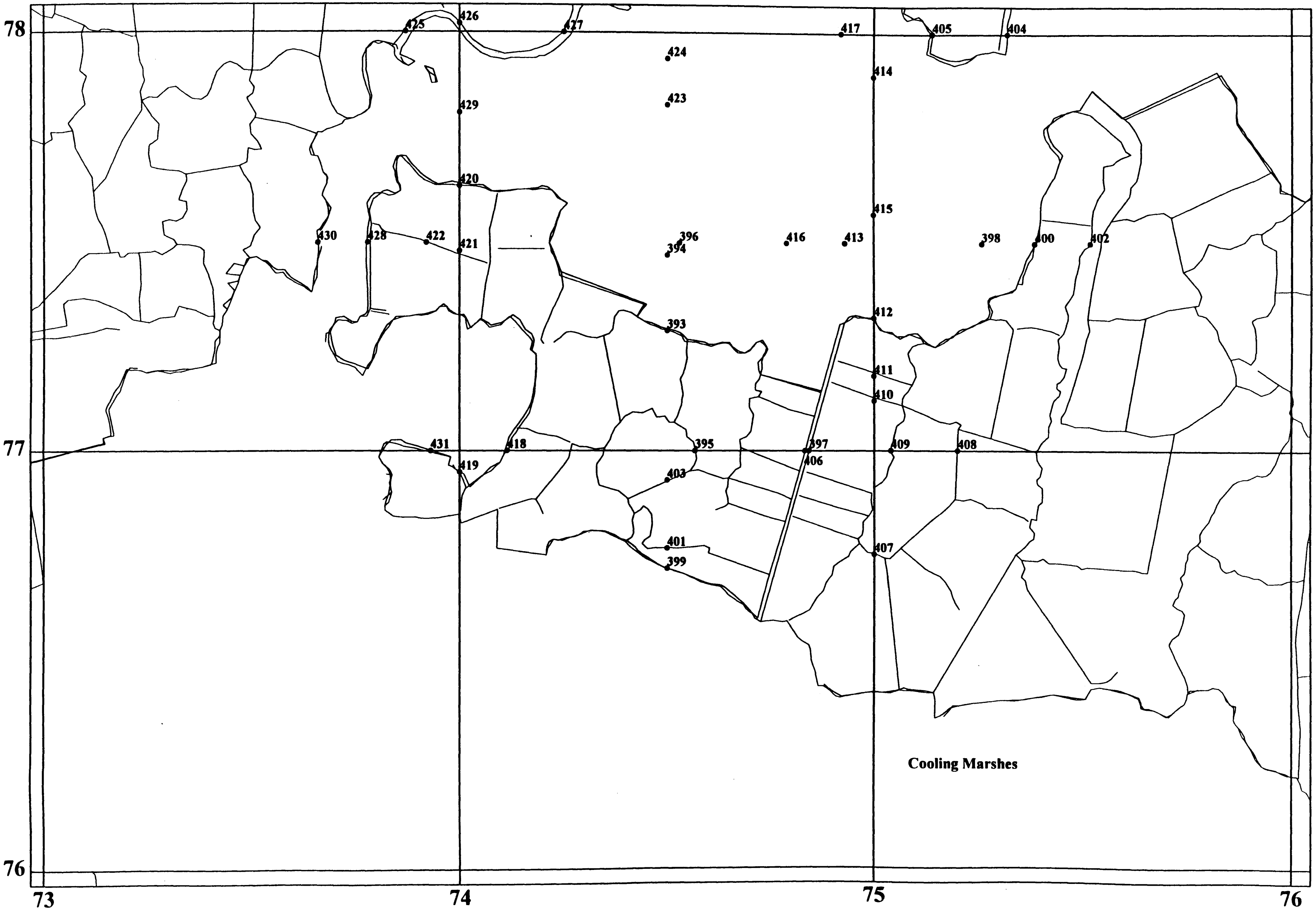

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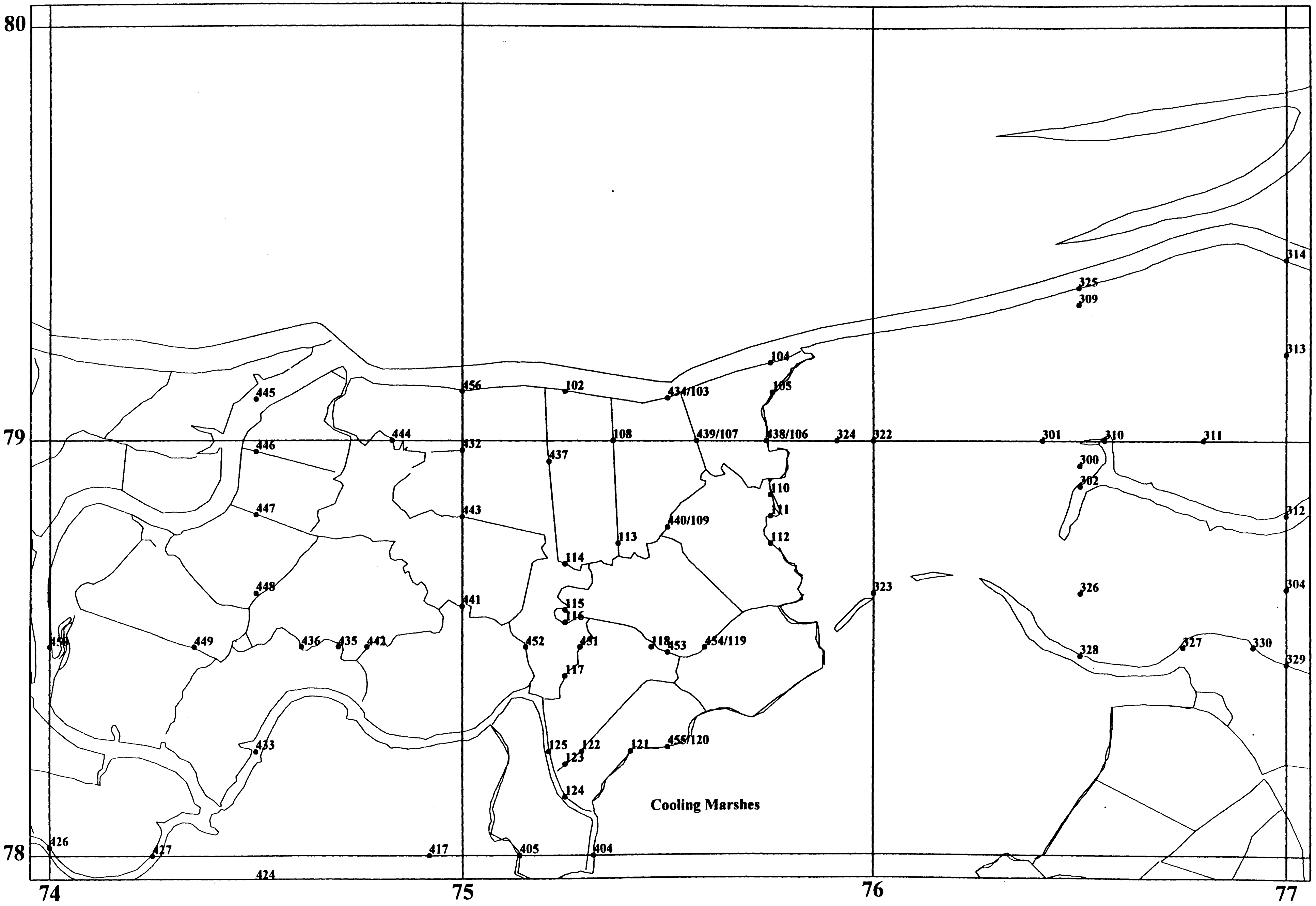

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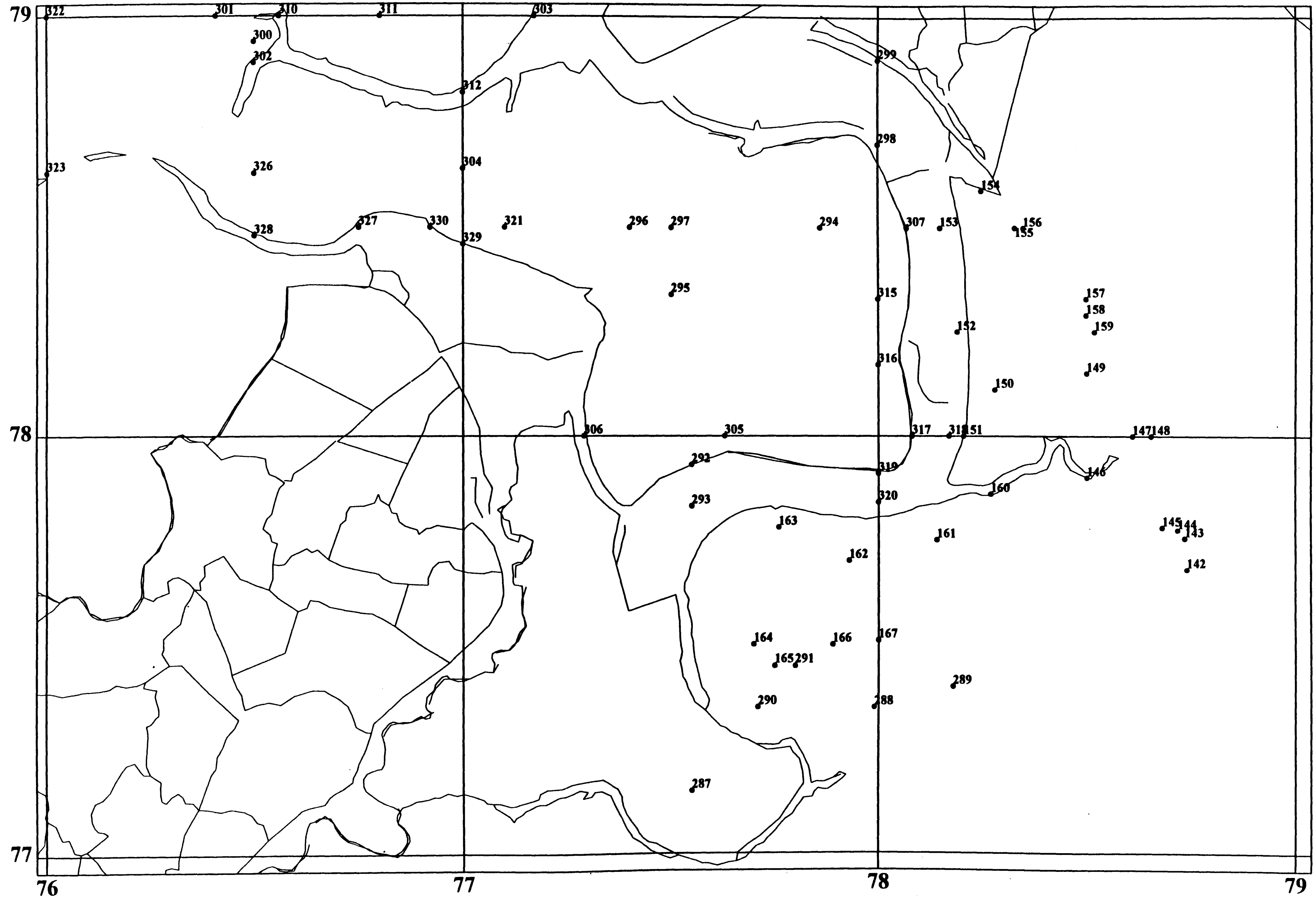

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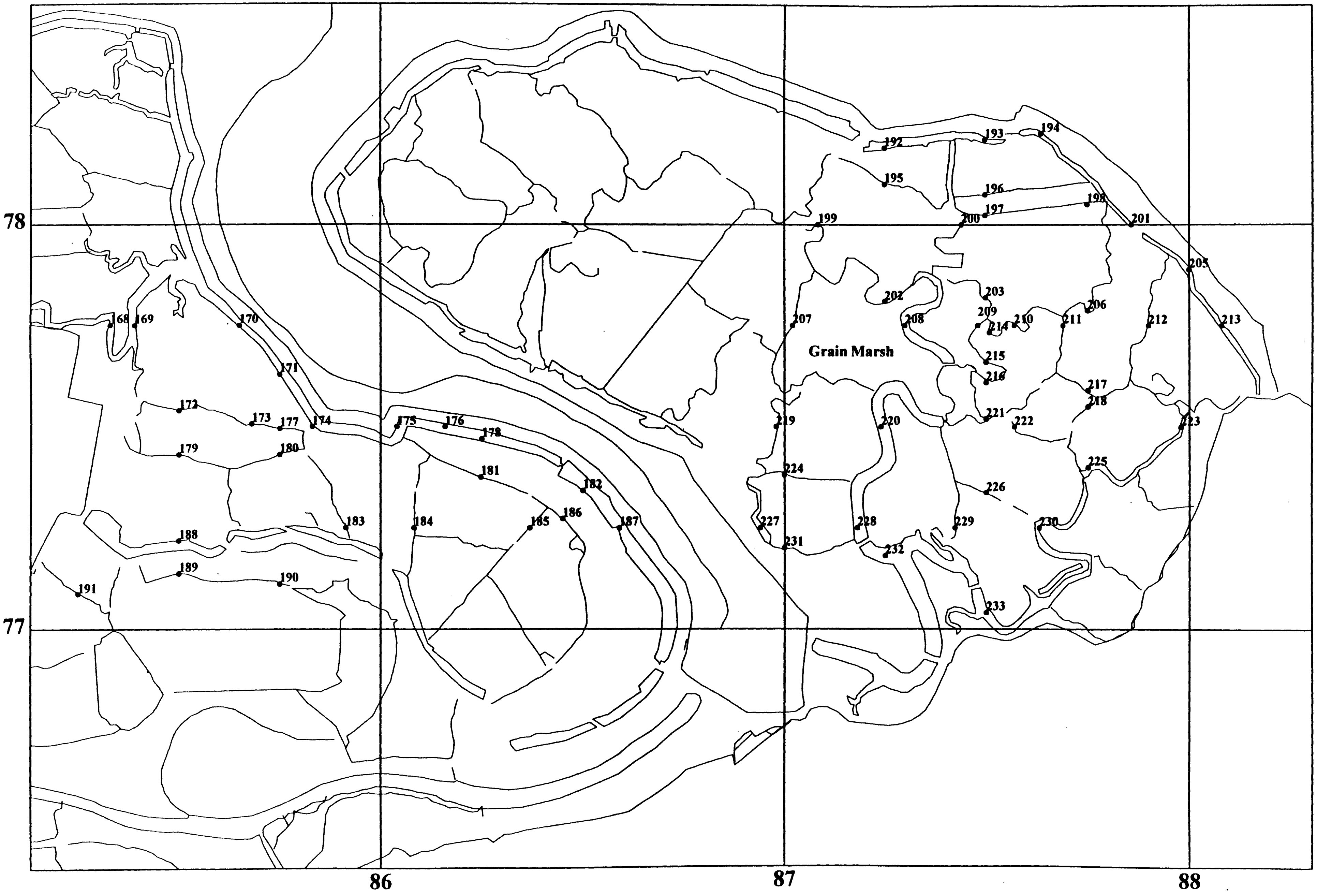

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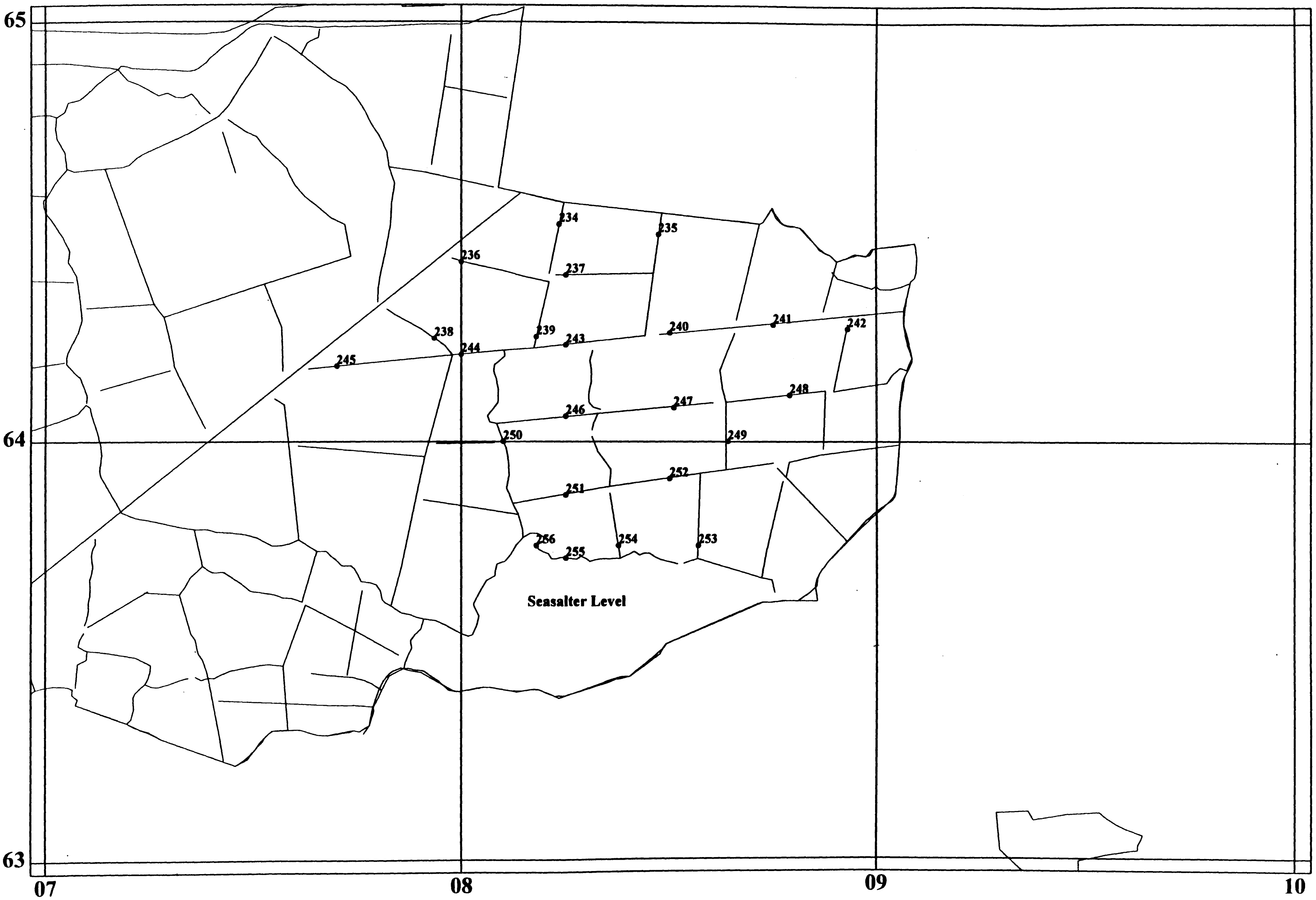

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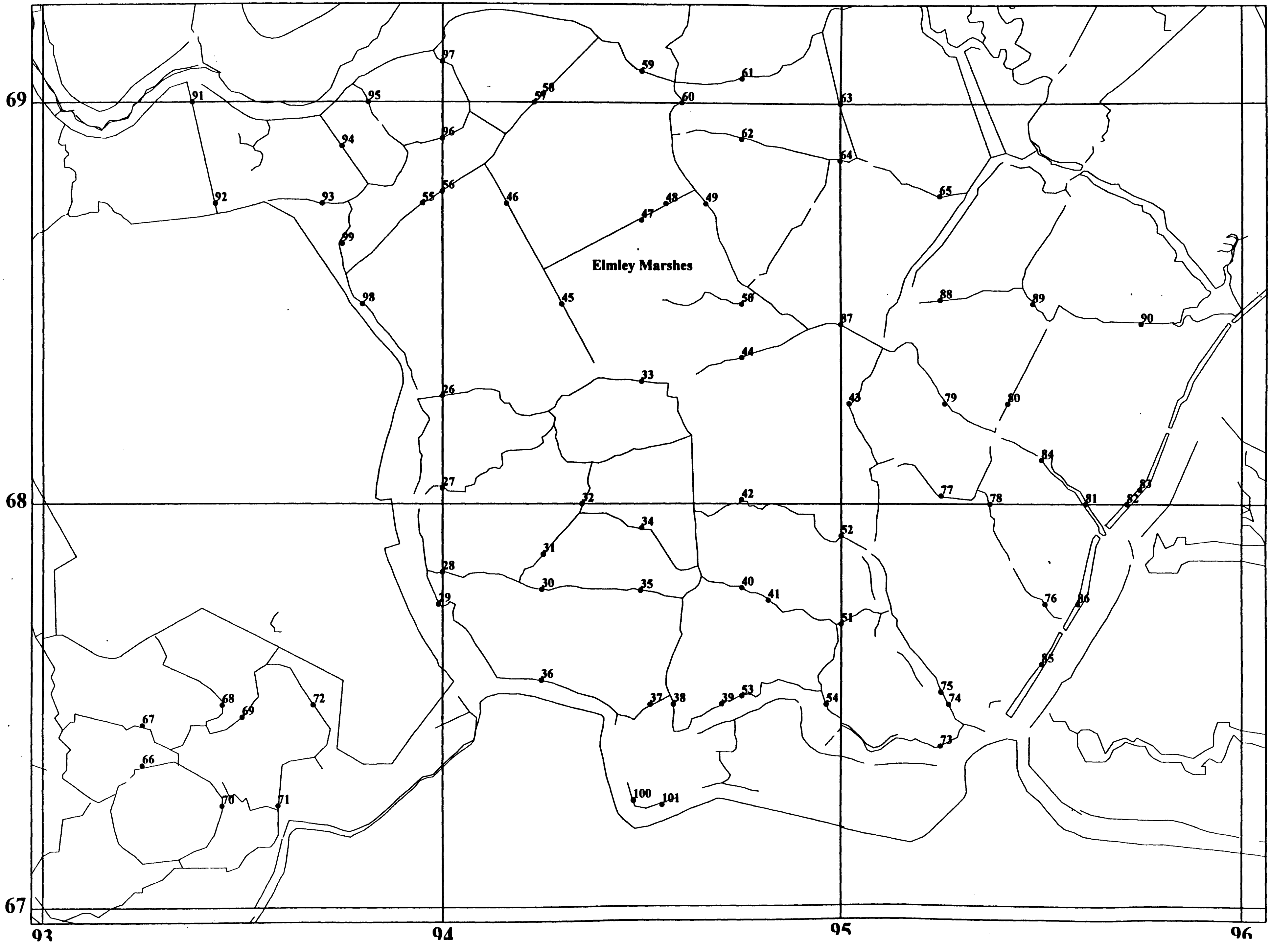

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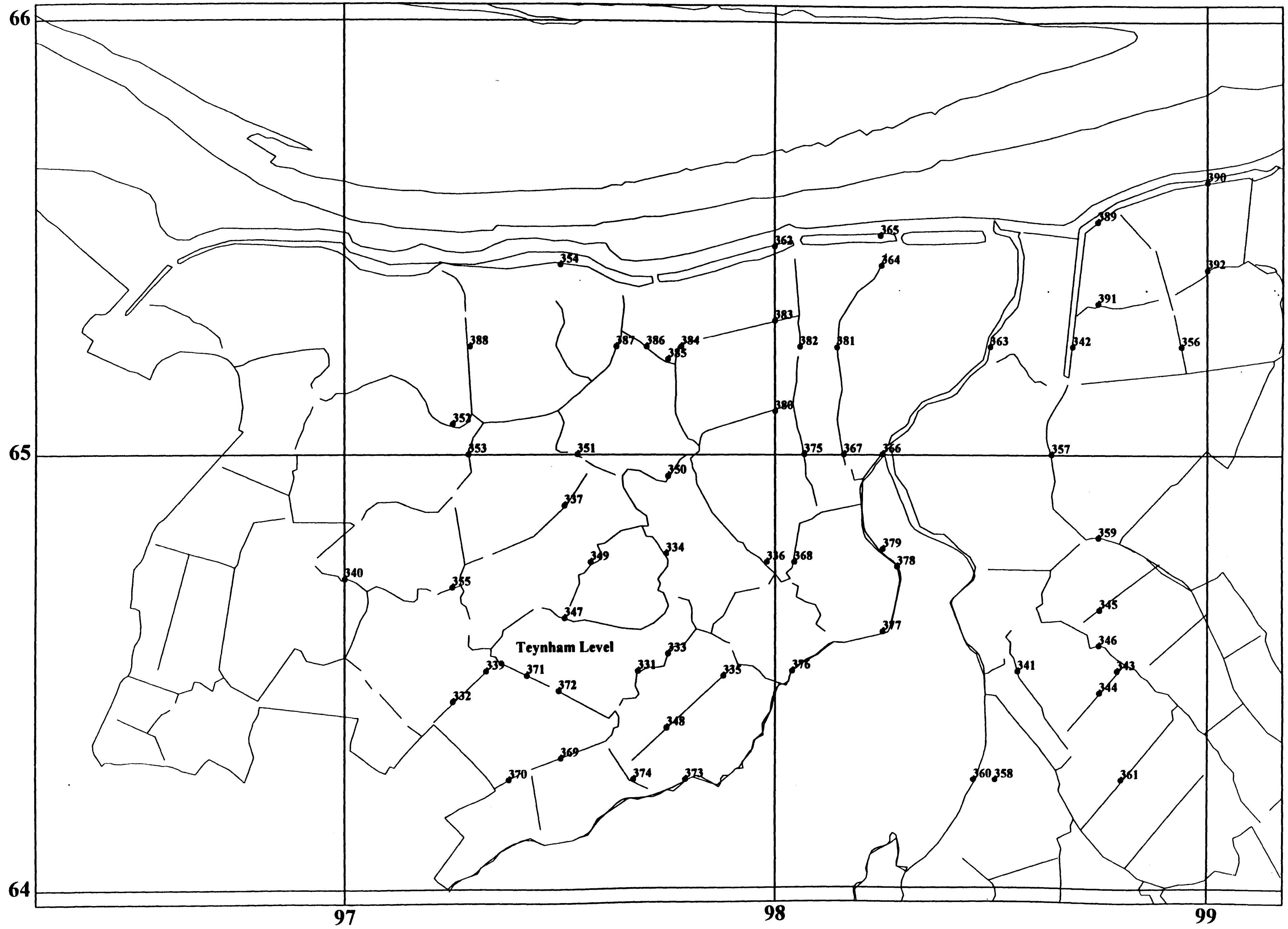

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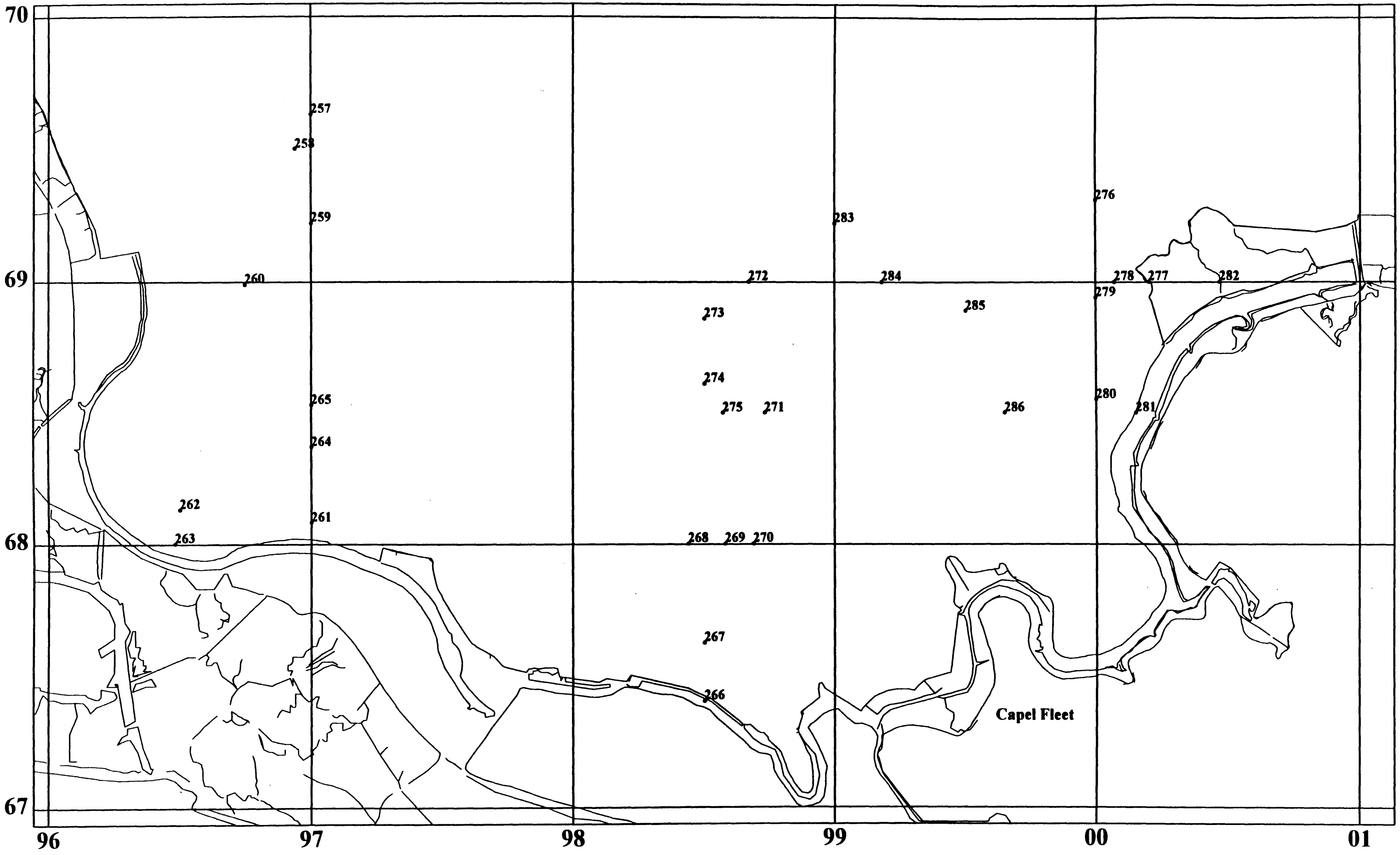

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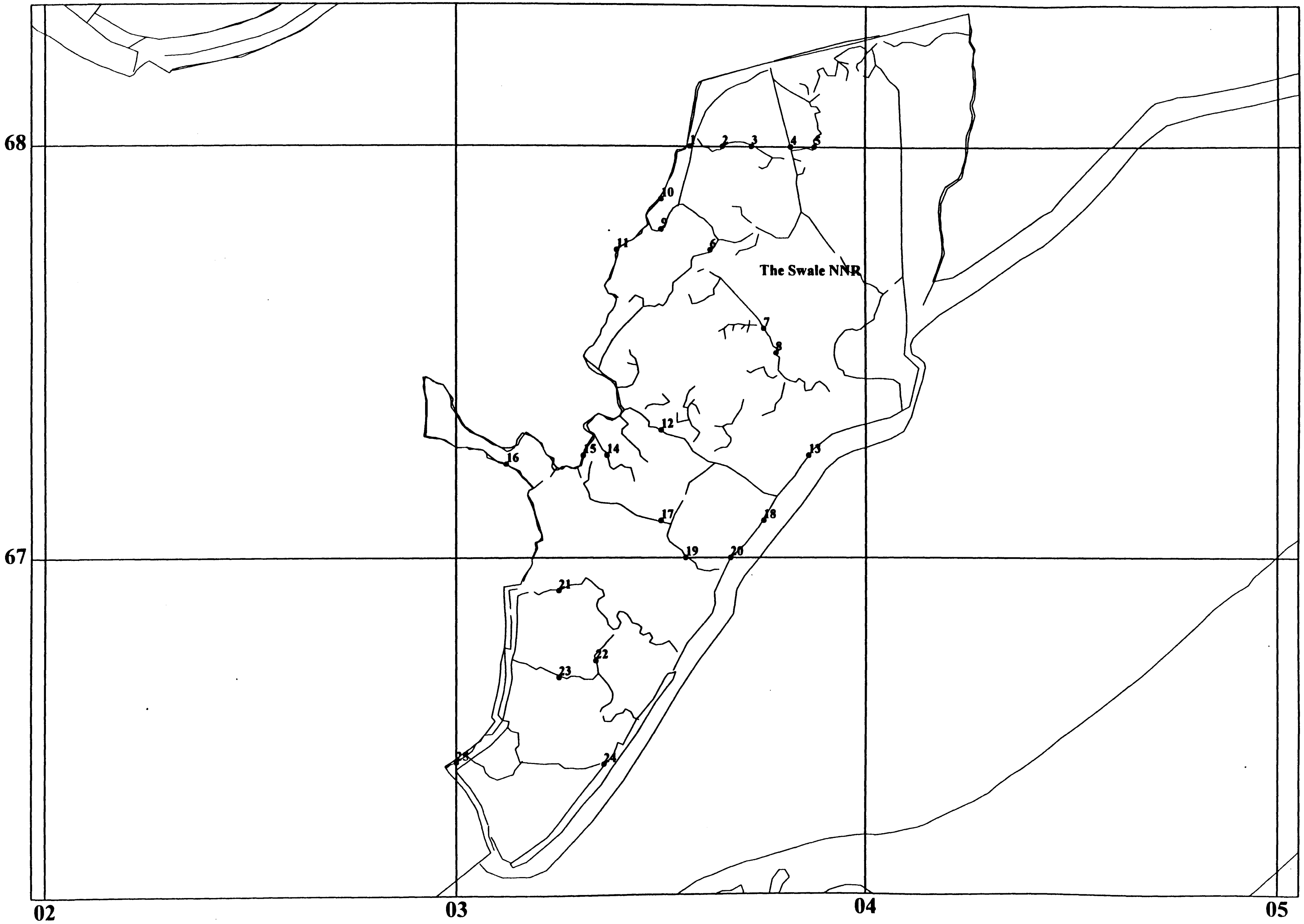


North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Azolla filiculoides																				
Callitriche obtusangula		5	5							2										
Callitriche stagnalis/sp																				
Ceratophyllum demersum																				
Ceratophyllum submersum		7	5																	
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna minor																				
Lemna trisulca																				
Myriophyllum spicatum					1	5	3	5				9	5		10			5		1
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus			7	5																
Potamogeton pusillus																				
Ranunculus baudotii		5	3		2				2				3	5						
Spirodela polyrhiza																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Eleocharis palustris					1									5						
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans	5																			
Glyceria maxima																				
Hippuris vulgaris													2					1	6	3
Nasturtium officinale																				
Oenanthe crocata																				
Oenanthe fistulosa																				
Phragmites australis									9	5	10		8					7		
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani																				
Scirpus maritimus	10	10	9	10	9	8	6	5	5	9		10	10	5	10	5	10	5	6	9
Sparganium erectum																				
Typha angustifolia																10				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata		3	2		2															
Agrostis stolonifera																				
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked	1									1	1									
Ditch dry	1									1	1									
Adjacent land use north / east	A					P			P	A	A	U			U				P	
Adjacent land use south / west	P					P			P	P	P	P			P				P	
Ditch width (nearest metre)	5					10			5	5	5	10			4				2	
Conductivity (µScm x 100)						27			30			26			28				20	

Sample number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Number of aquatic species	0	3	4	1	2	1	1	1	1	1	0	1	2	1	1	0	0	1	0	1
Number of emergent species	2	2	2	1	3	1	1	1	2	2	1	1	3	2	1	2	1	3	2	2
Number of bank species	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total number of species	2	5	6	2	5	2	2	2	3	3	1	2	5	3	2	2	1	4	2	3

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Azolla filiculoides																				
Callitriche obtusangula						5	5	2		5		1	2		4					
Callitriche stagnalis/sp																				
Ceratophyllum demersum																				
Ceratophyllum submersum			4	1		5			1	4	2	2						1	1	
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna minor				5		5		1		5	4									
Lemna trisulca				5		4				5	1	2			4					3
Myriophyllum spicatum	5	10	5	5		2		5	5	5	9	8	1		5	1				
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus		3		1		5			3	5	5	5	5	10	6	4	3	2	1	5
Potamogeton pusillus				3													3	5		
Ranunculus baudotii						3	3	1			4	5	5	2		5	1		1	
Spirodela polyrhiza																				
Zannichellia palustris						1														
Alisma plantago-aquatica						3														
Apium nodiflorum						1														
Berula erecta																				
Eleocharis palustris					6	2	8	3	5		1									
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale																				
Oenanthe crocata																				
Oenanthe fistulosa																				
Phragmites australis				5	5	3											5			
Ranunculus sceleratus								1												
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani																				
Scirpus maritimus	10	10	10	5	5	4	5	5	5	7	5	5	5	10	6	5	7	10	5	9
Sparganium erectum					5															
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Agrostis stolonifera																				
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry							1													
Adjacent land use north / east	P	P	P	P	P	H	P	P	P	P	P	P		P	P	P	P	P	P	P
Adjacent land use south / west	P	P	P	P	P	H	P	P	H	P	P	P		P	P	U	U	P	P	P
Ditch width (nearest metre)	4	4	4	4	4	4	2	3	4	3	4	3		3	5	2	5	5	4	4
Conductivity (µScm x 100)	15	44	45	13	10	23		33	31	47	41	43		41	35	47	41	54	53	37

Sample number	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Number of aquatic species	1	2	2	6	0	8	2	4	3	6	6	6	4	2	4	3	3	3	3	2
Number of emergent species	1	1	1	2	4	5	2	3	2	1	2	1	1	1	1	1	2	1	1	1
Number of bank species	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total number of species	2	3	3	8	4	13	4	7	5	7	8	7	5	3	5	4	5	4	4	3

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Azolla filiculoides																				
Callitriche obtusangula	6				7	5	2	3			7				4	3			4	
Callitriche stagnalis/sp																				
Ceratophyllum demersum																				
Ceratophyllum submersum			5	5	5	4	5	6	10						5	3	5	5	4	10
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna minor					5	5	5	5	5						4	1	2		5	4
Lemna trisulca					6	5	10	7		1										
Myriophyllum spicatum			10			5	1	1							4	4	4	5	1	
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus	2	8	5	10		5	5	5	2		3	5	4	10	7	5	5	5		4
Potamogeton pusillus													1							
Ranunculus baudotii	5		5	4	2	4	5	4		2	1	5			3	3			5	3
Spirodela polyrhiza																				
Zannichellia palustris																				
Alisma plantago-aquatica															2	1				
Apium nodiflorum																				
Berula erecta																				
Eleocharis palustris		1			5	5	5	5		8					6	5	4	5		
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale																				
Oenanthe crocata																				
Oenanthe fistulosa																				
Phragmites australis												5		7						
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani																				
Scirpus maritimus	10	10	5	9	5	5	5		9	7	7	5	5	5	5	6	10	10	10	10
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Agrostis stolonifera	5							5			5								5	
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry								1			1	1								
Adjacent land use north / east	P	P			P	H	H	P	P	H	P	P	P	P	P	U	U	U	U	U
Adjacent land use south / west	P	P			P	H	H	P	P	P	P	P	P	P	U	H	H	H	H	H
Ditch width (nearest metre)	4	3			5	3	8	2	2	10	1	2	3	4	5	4	4	2	2	4
Conductivity (µScm x 100)	37	41			36	45	37		54	36			40	53	89	44	44	37	37	41

Sample number	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Number of aquatic species	3	1	4	3	5	7	7	7	3	2	3	2	2	1	6	6	4	3	5	4
Number of emergent species	1	2	1	1	2	2	2	1	1	2	1	2	1	2	3	3	2	2	1	1
Number of bank species	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0
Total number of species	5	3	5	4	7	9	9	9	4	4	5	4	3	3	9	9	6	5	7	5

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Azolla filiculoides																				
Callitriche obtusangula	5		2			6	2	1	2											
Callitriche stagnalis/sp																				
Ceratophyllum demersum																				
Ceratophyllum submersum									4			2							10	5
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna minor	5					3		5	5			3								
Lemna trisulca	5					2		3	3											4
Myriophyllum spicatum												3								
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus	2	5	5	4				5	4				6			3	5	5	5	2
Potamogeton pusillus																				
Ranunculus baudotii		1	2	1	2						2		1	5	5	5				3
Spirodela polyrhiza																				
Zannichellia palustris																6				
Alisma plantago-aquatica						5														
Apium nodiflorum																				
Berula erecta																				
Eleocharis palustris				5		2	5	5	4	5	1	4								
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale																				
Oenanthe crocata																				
Oenanthe fistulosa																				
Phragmites australis											5		5	5	5					
Ranunculus sceleratus						1														
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani								3	6											
Scirpus maritimus	5	5	5	5	5	4	6	5	5	6	6	8	7	9	10	10	5	10	10	5
Sparganium erectum																				
Typha angustifolia							5	3												
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Agrostis stolonifera							5			2							4	1		2
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked							1													
Ditch dry							1	1				1	1						1	
Adjacent land use north / east	H	H		P	P	P	P	P	P	P	P	P	P	P	P				P	P
Adjacent land use south / west	H	H		P	P	P	P	P	P	P	P	P	P	P	P				P	P
Ditch width (nearest metre)	5	4		4	4	6	3	3	5	5	5	3	3	7	6				2	4
Conductivity (µScm x 100)	34	50		37	37	38			32	47	47			90	58					49

Sample number	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Number of aquatic species	4	2	3	2	1	3	1	4	5	0	1	3	2	1	1	3	1	1	2	4
Number of emergent species	1	1	1	2	1	4	3	4	3	2	3	2	2	2	2	1	1	1	1	1
Number of bank species	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	1
Total number of species	5	3	4	4	2	7	5	8	8	3	4	5	4	3	3	4	3	3	3	6

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Azolla filiculoides																				
Callitriche obtusangula													5	3	2			1	5	
Callitriche stagnalis/sp																				
Ceratophyllum demersum																				
Ceratophyllum submersum							10		1				5	6					5	
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna minor													5	5				4	5	
Lemna trisulca													5	5					5	
Myriophyllum spicatum													1	5						
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus	6	5	5	5	5	7	5	5	1	5				5	5			4	4	
Potamogeton pusillus																				
Ranunculus baudotii	5			4	5	4		1		5				2		3	5	1		
Spirodela polyrhiza																				
Zannichellia palustris					1	1		4												
Alisma plantago-aquatica																		4		
Apium nodiflorum																				
Berula erecta																				
Eleocharis palustris									3					1						
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale																				
Oenanthe crocata																				
Oenanthe fistulosa																				
Phragmites australis																				6
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani					1															
Scirpus maritimus	7	10	6	9	8	10	5	5	9	3	6	7	5	5	10	5	7	5	5	5
Sparganium erectum																		1		
Typha angustifolia													10					1		
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Agrostis stolonifera											6	5								
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry	N		N					1			1	1					1			
Adjacent land use north / east	P	P	P	P	P	P	P	P	P	P	H	H	H	P	P	P	U	H	U	P
Adjacent land use south / west	P	P	P	P	P	P	U	P	P	P	P	P	U	H	P	P	H	H	U	U
Ditch width (nearest metre)	2	5	3	7	6	2	8	2	4	5	2	2	4	5	3	6	1	4	6	8
Conductivity (µScm x 100)	57	42	87	43	41	39	36		56	64			37	32	89	81		41	37	66

Sample number	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Number of aquatic species	2	1	1	2	3	3	2	3	2	2	0	0	5	7	2	1	1	4	5	0
Number of emergent species	1	1	1	1	2	1	1	1	2	1	1	1	2	2	1	1	1	4	1	2
Number of bank species	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Total number of species	3	2	2	3	5	4	3	4	4	3	2	2	7	9	3	2	2	8	6	2

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/sp																				
Ceratophyllum demersum																				
Ceratophyllum submersum							2	2	1						3	4	5	5	3	1
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna minor							7						7				2			2
Lemna trisulca							5						5				1			
Myriophyllum spicatum																	1			
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus		10	10	1					4						3	2		2		
Potamogeton pusillus																				
Ranunculus baudotii		2					2	1						1	2		5		1	2
Spirodela polyrhiza																				
Zannichellia palustris									5							1			2	
Alisma plantago-aquatica																				
Apium nodiflorum																1	5			
Berula erecta																				
Eleocharis palustris			2				7	10					6			1	5	5	1	5
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans							5						6							
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale		1					1													
Oenanthe crocata																				
Oenanthe fistulosa							3							1	1	2		2	5	5
Phragmites australis		8																	4	
Ranunculus sceleratus							1							1						
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani		1															5			4
Scirpus maritimus	10	4	7	5	10	10	5	2	5	10	10	9	4	10	10	10	5		1	8
Sparganium erectum																				2
Typha angustifolia		3	1																	
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata		1															3			
Agrostis stolonifera		5	5			5		5		5	5	9	3	3	5		5	4		10
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry																				
Adjacent land use north / east	P		P			P	P	P	P									P	P	P
Adjacent land use south / west	U		P			P	P	P	P									P	P	P
Ditch width (nearest metre)	8		3			2	3	4	3									4	4	3
Conductivity (µScm x 100)	66		32			100	32	27	97									41	29	20

Sample number	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Number of aquatic species	0	2	1	1	0	0	4	2	3	0	0	0	2	1	3	3	5	2	3	3
Number of emergent species	1	6	3	1	1	1	6	2	1	1	1	1	3	3	2	4	5	2	4	5
Number of bank species	0	1	1	0	0	1	0	1	0	1	1	1	1	1	1	0	1	1	0	1
Total number of species	1	9	5	2	1	2	10	5	4	2	2	2	6	5	6	7	11	5	7	9

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/sp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1	5	2			6	4	5	4	3		10		2	6	3	5	7		
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba						5		5	5	5	10		10	5	5	4	5		5	10
Lemna minor	1	1				5		5	10	10	5	1	5	5	5	5	5		10	5
Lemna trisulca	2					10	10	10	10	10	10	10	10	6	10	10	10	10	10	10
Myriophyllum spicatum				7	5									2						
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus			2			4	5	5		1		2	1	5						
Potamogeton pusillus														2						
Ranunculus baudotii		5	2	1		2	2	5			2						1			
Spirodela polyrhiza																				
Zannichellia palustris														1						
Alisma plantago-aquatica																			1	
Apium nodiflorum		5	1	2	1															
Berula erecta																				
Eleocharis palustris	4	10	5	5	3	5	5	4	6	5	5	5	5	5	3	5	4	1		5
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans															4		2	1	5	3
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale	2			2		1	1	2	4	2			4							4
Oenanthe crocata																				
Oenanthe fistulosa	5	3	5																	
Phragmites australis																5				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani	3																			
Scirpus maritimus	5	1	5	3	6	5	5	5	1	3	4	5	1		1	4	1	2		
Sparganium erectum	2	5	6	7	2															
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata		3	1	3	5															
Agrostis stolonifera	9	4			3															
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry																				
Adjacent land use north / east						P	P	P	P	P	P	P	P	H	P	P	P			P
Adjacent land use south / west						P	P	P	P	P	P	H	F	P	P	P	P			F
Ditch width (nearest metre)						3	4	3	4	4	4	3	4	4	4	3	3			4
Conductivity (µScm x 100)						24	23	18	13	13	10	42	9	26	12	23	14			9

Sample number	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
Number of aquatic species	3	3	3	2	1	6	4	6	4	5	4	4	4	8	4	4	5	2	3	3
Number of emergent species	6	6	6	6	5	3	3	3	3	3	2	2	3	1	3	3	3	3	2	3
Number of bank species	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total number of species	10	10	9	8	7	9	7	9	7	8	6	6	7	9	7	7	8	5	5	6

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Azolla filiculoides									8	10								1		
Callitriche obtusangula		6			4								3							
Callitriche stagnalis/sp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	5																			
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba	5																			
Lemna minor	1	4																		2
Lemna trisulca	10	10			3				5	5								4		2
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus	2																			
Potamogeton pusillus																				
Ranunculus baudotii	2																			1
Spirodela polyrhiza																				
Zannichellia palustris																				
Alisma plantago-aquatica		3			1															
Apium nodiflorum																				
Berula erecta																				
Eleocharis palustris	4																			
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale					2															
Oenanthe crocata																				
Oenanthe fistulosa																				
Phragmites australis			10	10		10	10	10	10	10	10	10	10	10	10	1	10	10	10	5
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani																				
Scirpus maritimus	5							4						5	5	10		1		1
Sparganium erectum																				
Typha angustifolia		10			10		5				5			3		4	3			10
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Agrostis stolonifera																5				4
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides					1															
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry																				
Adjacent land use north / east	P																			
Adjacent land use south / west	P																			
Ditch width (nearest metre)	3																			
Conductivity (µScm x 100)	25																			

Sample number	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Number of aquatic species	6	3	0	0	2	0	0	0	2	2	0	0	1	0	0	0	0	2	0	3
Number of emergent species	2	2	1	1	3	1	2	2	1	1	2	1	1	3	2	3	2	2	1	3
Number of bank species	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Total number of species	8	5	1	1	6	1	2	2	3	3	2	1	2	3	2	4	2	4	1	7

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Azolla filiculoides					5	7														
Callitriche obtusangula	1			5																
Callitriche stagnalis/sp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	10			10	10															
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba				4																
Lemna minor	5		10	5	4	7	1													
Lemna trisulca	5		10	5	5	5														
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus	6			4	3					10	10			10	10					10
Potamogeton pusillus																				
Ranunculus baudotii				2	1															
Spirodela polyrhiza																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum		2	5	4			3													
Berula erecta																				
Eleocharis palustris	1		1																	
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale				2																
Oenanthe crocata																				
Oenanthe fistulosa																				
Phragmites australis					10															
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani	1		1	5																
Scirpus maritimus	5	5	5	5		5		10	4	5	10	10	10	10	7	10	10	10	10	10
Sparganium erectum																				
Typha angustifolia		10				10														
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Agrostis stolonifera							1										5			
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry																				
Adjacent land use north / east																				
Adjacent land use south / west																				
Ditch width (nearest metre)																				
Conductivity (µScm x 100)																				

Sample number	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Number of aquatic species	5	0	2	7	6	3	1	0	0	1	1	0	0	1	1	0	0	0	0	1
Number of emergent species	3	3	4	4	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of bank species	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
Total number of species	8	3	6	11	7	5	3	1	1	2	2	1	1	2	2	1	2	1	1	2

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
Azolla filiculoides																				
Callitriche obtusangula		1																		
Callitriche stagnalis/sp																				
Ceratophyllum demersum																				
Ceratophyllum submersum																			2	
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna minor																				
Lemna trisulca																				
Myriophyllum spicatum	10											5								
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus						10		10			5	5	7	1		1		2	2	1
Potamogeton pusillus																				
Ranunculus baudotii																			3	5
Spirodela polyrhiza																				
Zannichellia palustris											5	1								
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Eleocharis palustris																				
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale																				
Oenanthe crocata																				
Oenanthe fistulosa																				
Phragmites australis																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani																				
Scirpus maritimus	10	8	10	9	10	5	10	10	10	10	5	10	10	10	10	10	10	10	10	10
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Agrostis stolonifera		5	5	5	5		7		5	5					5		1			5
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry																				
Adjacent land use north / east															P	P	U		P	P
Adjacent land use south / west															P	U	P		P	P
Ditch width (nearest metre)															2	4	3		4	5
Conductivity (µScm x 100)															80	88	70		86	74

Sample number	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
Number of aquatic species	1	1	0	0	0	1	0	1	0	0	2	3	1	1	0	1	0	1	3	2
Number of emergent species	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of bank species	0	1	1	1	1	0	1	0	1	1	0	0	0	0	1	0	1	0	0	1
Total number of species	2	3	2	2	2	2	2	2	2	2	3	4	2	2	2	2	2	2	4	4

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	201	202	203	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/sp																				
Ceratophyllum demersum																				
Ceratophyllum submersum																				
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna minor																				
Lemna trisulca																				
Myriophyllum spicatum				4								5								
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus		2		5			5	1				5	5					10	4	3
Potamogeton pusillus									1											
Ranunculus baudotii		5				2	3	4	2				3	4			3	3		
Spirodela polyrhiza																				
Zannichellia palustris				1								4						1	5	
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Eleocharis palustris																				
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale																				
Oenanthe crocata																				
Oenanthe fistulosa					1															
Phragmites australis				1				10						10						
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani																				
Scirpus maritimus	10	10	10	10	10	10	10	5	10	10	10	10	10	10	10	10	10	8	10	10
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Agrostis stolonifera	5		10		5	5			3	5	5			5	5		7			5
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry																				
Adjacent land use north / east	H		H			P			H	H	H			H		H	H	H		H
Adjacent land use south / west	H		H			P			H	H	H			H		H	H	U		H
Ditch width (nearest metre)	3		2			2			4	2	4			10		2	2	3		15
Conductivity (µScm x 100)	82		97			50			81	53	75			87		72	76	84		77

Sample number	201	202	203	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221
Number of aquatic species	0	2	0	3	0	1	2	2	2	0	0	3	2	1	0	0	1	3	2	1
Number of emergent species	1	1	1	2	2	1	1	2	1	1	1	1	1	2	1	1	1	1	1	1
Number of bank species	1	0	1	0	1	1	0	0	1	1	1	0	0	1	1	0	1	0	0	1
Total number of species	2	3	2	5	3	3	3	4	4	2	2	4	3	4	2	1	3	4	3	3

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241
Azolla filiculoides																				
Callitriche obtusangula														6						
Callitriche stagnalis/sp																				
Ceratophyllum demersum																	5		5	2
Ceratophyllum submersum		1		4						5										
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																			1	
Hydrocharis morsus-ranae													5	7	7			10	5	5
Lemna gibba																	5		5	4
Lemna minor														4		2		5	5	5
Lemna trisulca													8	5	5	4		5		
Myriophyllum spicatum				1											4		1		4	
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus	5	10		10		7	5		5	8	10	10			1		1			
Potamogeton pusillus																				
Ranunculus baudotii	1		1			1	3			1	5									
Spirodela polyrhiza																			5	5
Zannichellia palustris							4		2		2	3								
Alisma plantago-aquatica															3			1	5	3
Apium nodiflorum																				
Berula erecta													10	7	8	10	3	5	5	3
Eleocharis palustris																				
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale																				
Oenanthe crocata																				
Oenanthe fistulosa	1																	1		
Phragmites australis							5							8	10			5	5	1
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani		1											6	2		5				
Scirpus maritimus	10	10	10	10	10	10	5	10	10	10	10	10	6	1		5	10	2	2	5
Sparganium erectum														2			1	2	4	10
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Agrostis stolonifera	5				5			5								2		5		
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry																				
Adjacent land use north / east	H	H	H	H	H			H	H	H	H		H	P	P	H	P		P	P
Adjacent land use south / west	H	H	H	H	H			H	H	U	P		P	H	H	F	P		H	H
Ditch width (nearest metre)	3	10	3	10	2			2	20	3	25		4	5	4	4	8		7	7
Conductivity (µScm x 100)	87	57	67	77	67			80	62	76	64		31	12	12	30	21		8	6

Sample number	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241
Number of aquatic species	2	2	1	3	0	2	3	0	2	3	3	2	2	4	4	2	4	3	7	5
Number of emergent species	2	2	1	1	1	1	2	1	1	1	1	1	3	5	3	3	3	6	5	5
Number of bank species	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0
Total number of species	5	4	2	4	2	3	5	2	3	4	4	3	5	9	7	6	7	10	12	10

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/sp																				
Ceratophyllum demersum		5	4	3			3	10						1						
Ceratophyllum submersum										2										
Chara sp																				
Elodea canadensis																				
Elodea nuttallii			1																	
Hydrocharis morsus-ranae	5	5	1	1			5	5		3		5		5						
Lemna gibba		9	6	7									5							
Lemna minor	5	5	1	3		5	5	5	3					1	5					
Lemna trisulca	10				10	9	6	5		9		10	10	10	10					
Myriophyllum spicatum			4																	
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus																		10		4
Potamogeton pusillus																				
Ranunculus baudotii																				
Spirodela polyrhiza		6																		
Zannichellia palustris																		10		5
Alisma plantago-aquatica	1	1																		
Apium nodiflorum			1	6				2		1			4							
Berula erecta		5	3			3	5	3	8	2		7	1	9	6					
Eleocharis palustris																				
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale		1																		
Oenanthe crocata																				
Oenanthe fistulosa	5	1												4	1					
Phragmites australis	10	5	5	5	10	10	10	10	10	10	10	10	10	8	10					
Ranunculus sceleratus																				
Rumex hydrolapathum	3						3	2												
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani				4																
Scirpus maritimus		2	10		5	5	1	5								10	10	5	7	10
Sparganium erectum	1																			
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Agrostis stolonifera																5	4			
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica							2	1												
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked					1			1	1	1	1	1	1	1	1					
Ditch dry					1					1	1		1							
Adjacent land use north / east		H	P	P	H			P	H	P	P	P	P	P	P					
Adjacent land use south / west		P	P	P	P			P	P	P	P	P	P	P	P					
Ditch width (nearest metre)		8	8	5	4			5	4	4	4	4	4	4	4					
Conductivity (µScm x 100)		17	19	20				22	23		24	28		24	24					

Sample number	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261
Number of aquatic species	3	5	6	4	1	2	4	4	1	3	0	2	2	4	2	0	0	2	0	2
Number of emergent species	5	6	4	3	2	3	4	5	2	3	1	2	3	3	3	1	1	1	1	1
Number of bank species	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0
Total number of species	8	11	10	7	3	5	9	10	3	6	1	4	5	7	5	2	2	3	1	3

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	262	263	264	265	266	267	268	269	270	271	272	273	276	277	278	279	280	281	282	283
Azolla filiculoides																10				
Callitriche obtusangula																				
Callitriche stagnalis/sp																				
Ceratophyllum demersum																				
Ceratophyllum submersum								9			5								5	3
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna minor										1	5									5
Lemna trisulca										8										
Myriophyllum spicatum														8						
Myriophyllum verticillatum																				
Potamogeton crispus																				5
Potamogeton pectinatus			10	10				2						3			5		7	
Potamogeton pusillus								5												1
Ranunculus baudotii																			4	
Spirodela polyrhiza																				
Zannichellia palustris			2	1													4			
Alisma plantago-aquatica										2										
Apium nodiflorum																				
Berula erecta										5	5									2
Eleocharis palustris										2	2			5					4	1
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				1
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale											5									5
Oenanthe crocata																				
Oenanthe fistulosa																				
Phragmites australis							10					10						1		
Ranunculus sceleratus										1										
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani									1	1										
Scirpus maritimus	10	6	5	5	10	10		5	10	5	5	5	7	10	10		10	10	5	4
Sparganium erectum										4				8						3
Typha angustifolia										1		7		2	4					
Typha latifolia									2											
Veronica anagallis-aquatica																				
Veronica catenata																				
Agrostis stolonifera																				
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii													3		2			2		
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry																				
Adjacent land use north / east																				
Adjacent land use south / west																				
Ditch width (nearest metre)																				
Conductivity (µScm x 100)																				

Sample number	262	263	264	265	266	267	268	269	270	271	272	273	276	277	278	279	280	281	282	283
Number of aquatic species	0	0	2	2	0	0	0	3	0	2	2	0	0	2	0	1	2	0	3	4
Number of emergent species	1	1	1	1	1	1	1	1	3	8	4	3	1	4	2	0	1	2	2	6
Number of bank species	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0
Total number of species	1	1	3	3	1	1	1	4	3	10	6	3	2	6	3	1	3	3	5	10

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/sp				5			3	3		1						3				
Ceratophyllum demersum																				
Ceratophyllum submersum	1				5	5		5												
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna minor									1				2							
Lemna trisulca	2				5	5		5	1							3				
Myriophyllum spicatum	9			5			5			5										
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus	4					5	2	5												
Potamogeton pusillus																				
Ranunculus baudotii																				
Spirodela polyrhiza					5	5		5												
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum								5								1				
Berula erecta																				
Eleocharis palustris	4																			
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale								1												
Oenanthe crocata																				
Oenanthe fistulosa																				
Phragmites australis				10	5		10			10					10				10	10
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani	1				1	2		5	1							3				
Scirpus maritimus	5	10	10			5		4	5		5	7	8	6		9	5	5		
Sparganium erectum	5																			
Typha angustifolia									4							3				
Typha latifolia							5													
Veronica anagallis-aquatica																				
Veronica catenata																				
Agrostis stolonifera									5			10	6	3	5					
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry																				
Adjacent land use north / east																				
Adjacent land use south / west																				
Ditch width (nearest metre)																				
Conductivity (µScm x 100)																				

Sample number	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303
Number of aquatic species	4	0	0	2	3	4	3	5	2	2	0	0	1	0	0	2	0	0	0	0
Number of emergent species	4	1	1	1	2	2	2	4	3	1	1	1	1	1	1	4	1	1	1	1
Number of bank species	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	0	0	0	0	0
Total number of species	8	1	1	3	5	6	5	9	6	3	1	2	3	2	2	6	1	1	1	1

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323
Azolla filiculoides																				
Callitriche obtusangula		5		5																
Callitriche stagnalis/sp																				
Ceratophyllum demersum																				
Ceratophyllum submersum																				
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna minor		1																		
Lemna trisulca																				
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus																		3		
Potamogeton pusillus																				
Ranunculus baudotii		6																		
Spirodela polyrhiza																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Eleocharis palustris																				
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Nasturtium officinale																				
Oenanthe crocata																				
Oenanthe fistulosa																				
Phragmites australis	10		10	10	10	10	10		10	10	10	10	10		10	5	10			
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani																				
Scirpus maritimus		10						10						5				5	5	5
Sparganium erectum																				
Typha angustifolia			5		3													3		
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata		3																		
Agrostis stolonifera		3																		
Aster tripolium									1		2									
Lycopus europaeus																				1
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry																				
Adjacent land use north / east																				
Adjacent land use south / west																				
Ditch width (nearest metre)																				
Conductivity (µScm x 100)																				

Sample number	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323
Number of aquatic species	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Number of emergent species	1	2	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1
Number of bank species	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total number of species	1	6	2	2	2	1	1	1	2	1	2	1	1	1	1	1	1	3	1	2

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/sp								3		1							3			
Ceratophyllum demersum														10						
Ceratophyllum submersum								10	10	10	10		10		10	10	10			
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																		5		
Lemna gibba																				
Lemna minor								5	5	5	5	3	5	5	5	5	5	5		5
Lemna trisulca								5	5	5	5	3	5	4	5	5	5	5		
Myriophyllum spicatum																		5		
Myriophyllum verticillatum																				
Potamogeton crispus																	1			
Potamogeton pectinatus												3	2	1	4			2		
Potamogeton pusillus																				
Ranunculus baudotii																				
Spirodela polyrhiza																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																		7		5
Berula erecta								5	5	5	5		5	5	4	5	5			
Eleocharis palustris								6		5	5	3	7	5	5		5	3		
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																		6		9
Hippuris vulgaris																				
Nasturtium officinale										3	5			2	4		4			
Oenanthe crocata																				1
Oenanthe fistulosa										1			5		5			5		3
Phragmites australis		5		10	10	5	5		10	10	2	3	5	3		10		5		3
Ranunculus sceleratus																				
Rumex hydrolapathum													1							
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani															3	2				
Scirpus maritimus	5	5	10		2	2									5			5	10	
Sparganium erectum								5	1	9							3	5		
Typha angustifolia					2											8				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Agrostis stolonifera																				
Aster tripolium		5																		
Lycopus europaeus																				
Mentha aquatica																1				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris															4					
Scrub cover																				
Ditch choked									1											1
Ditch dry																				
Adjacent land use north / east								P	U	P	P	P	P	P			P	P	P	P
Adjacent land use south / west								P	P	P	P	P	P	P			P	P	P	P
Ditch width (nearest metre)								5	3	5	4	4	4	4			4	7	15	4
Conductivity (µScm x 100)								7	5	7	7	7	6	14			13	13	37	13

Sample number	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343
Number of aquatic species	0	0	0	0	0	0	0	4	3	4	3	3	4	4	4	3	5	5	0	1
Number of emergent species	1	2	1	1	3	2	1	3	3	6	4	2	5	4	6	4	4	7	1	5
Number of bank species	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Total number of species	1	3	1	1	3	2	1	7	6	10	7	5	9	8	11	8	9	12	1	6

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	344	345	346	347	348	349	350	351	352	353	354	355	356	357	359	360	361	362	363	364
Azolla filiculoides																				
Callitriche obtusangula												4								
Callitriche stagnalis/sp			5												2					
Ceratophyllum demersum												5								
Ceratophyllum submersum				10	1	10	10	9	10	10		5								
Chara sp	5				2							4			3					
Elodea canadensis			2		2							5								
Elodea nuttallii																				
Hydrocharis morsus-ranae			5												5					
Lemna gibba																				
Lemna minor			5	5	5	5	5	5	5	5		5		4		2				
Lemna trisulca			5	5	5	5	5	5	5						5		5	1		
Myriophyllum spicatum														3	2		4			
Myriophyllum verticillatum			6																	
Potamogeton crispus																				
Potamogeton pectinatus					4	2	2	4	1						5					10
Potamogeton pusillus																				
Ranunculus baudotii															4			3		5
Spirodela polyrhiza																				
Zannichellia palustris																				
Alisma plantago-aquatica															2					
Apium nodiflorum	4		5		1											1				
Berula erecta				5		5	5	4	4	5				4	5		5	5		
Eleocharis palustris				5	1	5	5	5	5	5					5		4			
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima			8												5	5			5	
Hippuris vulgaris																				
Nasturtium officinale			1	2		1													4	
Oenanthe crocata																				
Oenanthe fistulosa	3	4	3	3				1							2		3			
Phragmites australis	2	10			5	5	5	4			10				5		5		5	
Ranunculus sceleratus																				
Rumex hydrolapathum																2			1	
Scirpus lacustris lacustris															4		2			
Scirpus lacustris tabernaemontani	1			5										1	1			10		5
Scirpus maritimus				5		1	5	5			5		5	8			3	10	1	5
Sparganium erectum			10					3	5	3					3		1		1	
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica										1										
Veronica catenata			1												1					
Agrostis stolonifera																		10		
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica															4					
Myosotis scorpioides			4																	
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked	1	1									1			1			1	1		
Ditch dry											1		1					1		
Adjacent land use north / east	P	P	P	P	P	P		P	P		P	P	P	P	P	P	P	P	P	P
Adjacent land use south / west	P	P	P	P	P	P		P	P		F	P	P	P	H	U	P	F	P	P
Ditch width (nearest metre)	4	3	8	4	4	4		4	5		15	4	3	4	5	8	4	15	25	4
Conductivity (µScm x 100)	13	15	3	7	7	6		16	10			14		117	22	7	19		8	33

Sample number	344	345	346	347	348	349	350	351	352	353	354	355	356	357	359	360	361	362	363	364
Number of aquatic species	1	0	6	3	6	4	4	4	4	2	0	6	0	2	7	1	2	2	0	2
Number of emergent species	4	2	6	6	3	5	4	6	3	4	2	0	1	3	10	3	7	3	6	2
Number of bank species	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0
Total number of species	5	2	13	9	9	9	8	10	7	6	2	6	1	5	18	4	9	6	6	4

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384
Azolla filiculoides																				
Callitriche obtusangula					4											1				
Callitriche stagnalis/sp					1		4	1	5	1		3	5					1		
Ceratophyllum demersum																				
Ceratophyllum submersum					4	5	5	5			4					3		3	2	5
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae		1																		
Lemna gibba																				
Lemna minor				5	5	10	5	5		5	5				1	5		5		5
Lemna trisulca				1	1	5	5	5		1	4					3		5	5	
Myriophyllum spicatum									1	2	2							1		
Myriophyllum verticillatum																				
Potamogeton crispus						1		5												
Potamogeton pectinatus			5			1						5					5			
Potamogeton pusillus													5				1			
Ranunculus baudotii			2																	
Spirodela polyrhiza																				
Zannichellia palustris															1					
Alisma plantago-aquatica																				
Apium nodiflorum					5	5	4					1	1						3	4
Berula erecta							1			4				1		7		3		2
Eleocharis palustris				5	5		5	5				2	1	3		5		3		5
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima		5		5	5				5			5	2	6	10					
Hippuris vulgaris		1														2				
Nasturtium officinale		5			5	1	5		3	1		1	5	4	5	1		3	2	
Oenanthe crocata																				
Oenanthe fistulosa																2				3
Phragmites australis	10	5	10		5	5	5	10		10	2		1	10	10	4	3	10	10	10
Ranunculus sceleratus							2													
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani											5					5	5	4	4	3
Scirpus maritimus	4	4	4	3			5				3		1			4	10		2	
Sparganium erectum					1	3						1	5							
Typha angustifolia																				
Typha latifolia																1				
Veronica anagallis-aquatica																				
Veronica catenata					2				2				5					2		
Agrostis stolonifera	4															3			5	
Aster tripolium																				
Lycopus europaeus																				
Mentha aquatica						5														
Myosotis scorpioides																		1		
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked	1									1									1	1
Ditch dry	1																			
Adjacent land use north / east	P	P	P	P	P	P			P	P	P	A	A			P	P	P	P	P
Adjacent land use south / west	F	A	P	P	P	P			P	P	P	P	P			P	P	P	P	P
Ditch width (nearest metre)	15	7	5	4	4	4			7	4	5	7	6			4	4	4	4	3
Conductivity (µScm x 100)		9	13	10	7	7			7	6	11	7	7			12	22	11	22	9

Sample number	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384
Number of aquatic species	0	1	2	2	5	5	4	5	2	4	4	2	2	0	2	4	2	5	2	2
Number of emergent species	2	5	2	3	7	4	7	2	3	3	3	5	8	5	3	9	3	6	5	6
Number of bank species	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	1	0
Total number of species	3	6	4	5	12	10	11	7	5	7	7	7	10	5	5	14	5	12	8	8

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	402	403	404	405
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/sp				1																
Ceratophyllum demersum																				
Ceratophyllum submersum	10	5	10	10													5			
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna minor	5	5	5	5																
Lemna trisulca	5	5	5	5																
Myriophyllum spicatum					5	6														
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus								5		1		5								
Potamogeton pusillus																				
Ranunculus baudotii																				
Spirodela polyrhiza																				
Zannichellia palustris																				
Alisma plantago-aquatica																	5			
Apium nodiflorum		1	1	4													3		4	
Berula erecta	5	5		5																
Eleocharis palustris		5	5	5													5		3	5
Eleocharis uniglumis																				
Equisetum fluviatile																			1	
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris			2																	
Nasturtium officinale				5															2	
Oenanthe crocata																				
Oenanthe fistulosa		5	4														5			5
Phragmites australis	10	10			10					7					5	10				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani	5	5	4			4	1													
Scirpus maritimus	5	5	1	1	5	10	6	5	10	6	10	10	5	10			10	3	10	10
Sparganium erectum		5	5	10													5		4	
Typha angustifolia	1																			
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata				3															3	
Agrostis stolonifera											5								2	
Aster tripolium																				
Lycopus europaeus																	5			
Mentha aquatica																	5			
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked	1	1																		
Ditch dry																				
Adjacent land use north / east	P	P	P	P	U	U	P	P												
Adjacent land use south / west	P	P	P	P	P	P	P	P												
Ditch width (nearest metre)	3	3	9	3	8	8	5	8												
Conductivity (µScm x 100)	7	7	16	12	36	36	33	30												

Sample number	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	402	403	404	405
Number of aquatic species	3	3	3	4	1	1	0	1	0	1	0	1	0	0	0	0	1	0	0	0
Number of emergent species	5	8	7	7	2	2	2	1	1	2	1	1	1	1	1	1	6	1	7	3
Number of bank species	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	1	0
Total number of species	8	11	10	11	3	3	2	2	1	3	2	2	1	1	1	1	9	1	8	3

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	406	407	408	409	410	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426
Azolla filiculoides									5											
Callitriche obtusangula																				
Callitriche stagnalis/sp																				
Ceratophyllum demersum												5	5							
Ceratophyllum submersum				3			4	5	5		10	5	2	4						
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba												5	10	4						
Lemna minor				3			5					5	10	5						
Lemna trisulca				2								2	3	5						1
Myriophyllum spicatum								5			3									
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus								5									1		5	
Potamogeton pusillus																				
Ranunculus baudotii				3																
Spirodela polyrhiza																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum				1																
Berula erecta														5						
Eleocharis palustris		4	10	1				5				5			1				7	5
Eleocharis uniglumis																				
Equisetum fluviatile																				
Glyceria fluitans				3	2															
Glyceria maxima																				
Hippuris vulgaris																			5	
Nasturtium officinale																			3	
Oenanthe crocata																				
Oenanthe fistulosa	1	5	2	2																
Phragmites australis						10												10		
Ranunculus sceleratus																				
Rumex hydrolapathum																			1	
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani															2					
Scirpus maritimus	10	10	4	5		2	10	5	10	10	10	5	5	10	10	10	10		10	10
Sparganium erectum		1	5																	
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata				1															3	2
Agrostis stolonifera		3			5	4														
Aster tripolium														1		3				
Lycopus europaeus			3									5								
Mentha aquatica																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Rumex maritimus																				
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry																				
Adjacent land use north / east																				
Adjacent land use south / west																				
Ditch width (nearest metre)																				
Conductivity (µScm x 100)																				

Sample number	406	407	408	409	410	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426
Number of aquatic species	0	0	0	4	0	0	2	3	2	0	2	5	5	4	0	0	1	0	1	1
Number of emergent species	2	4	4	6	1	2	1	2	1	1	1	2	1	2	3	1	1	1	6	3
Number of bank species	0	1	1	0	1	1	0	0	0	0	0	1	0	1	0	1	0	0	0	0
Total number of species	2	5	5	10	2	3	3	5	3	1	3	8	6	7	3	2	2	1	7	4

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	427	428	429	430	431	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/sp														5		5				
Ceratophyllum demersum					5												5			
Ceratophyllum submersum	5	10	10		5			5	10	5		10		10		10				
Chara sp																				
Elodea canadensis																				
Elodea nuttallii																				
Hydrocharis morsus-ranae																				
Lemna gibba					10				4			10				10				
Lemna minor		5			10				4					5	1	5				
Lemna trisulca		5		7	5				4	10		5		5		5				
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Potamogeton crispus																				
Potamogeton pectinatus			5				10													
Potamogeton pusillus																				
Ranunculus baudotii							1		5	7		1		5	5	5	5		1	2
Spirodela polyrhiza																				
Zannichellia palustris																				
Alisma plantago-aquatica								1						2						
Apium nodiflorum		4							5											5
Berula erecta																				
Eleocharis palustris						3	4	10		10		10		10	3		2	3	5	5
Eleocharis uniglumis						4														
Equisetum fluviatile																				
Glyceria fluitans										5		5		5		6				
Glyceria maxima																				
Hippuris vulgaris						5												5		
Nasturtium officinale	2						2	1		3				1	2					
Oenanthe crocata																				
Oenanthe fistulosa								6	7			5		5	5		1		8	5
Phragmites australis	10		1			10	1											10	1	
Ranunculus sceleratus					1	2											1			
Rumex hydrolapathum																				
Scirpus lacustris lacustris																				
Scirpus lacustris tabernaemontani																	1			
Scirpus maritimus	5	10	9	10	5	10	10	5	4	5	10	10	9	5			5	5	5	5
Sparganium erectum								7	4					5	8					
Typha angustifolia	5								4								10			
Typha latifolia																				
Veronica anagallis-aquatica																	1			
Veronica catenata	3								4						3			4		
Agrostis stolonifera																			1	4
Aster tripolium							1													
Lycopus europaeus																				
Mentha aquatica																				
Myosotis scorpioides	3							1	3					5	2					
Oenanthe lachenalii																				
Rumex maritimus						1												5		
Triglochin palustris																				
Scrub cover																				
Ditch choked																				
Ditch dry																			1	
Adjacent land use north / east						P	P		P	P	P	P	P		P	P			P	P
Adjacent land use south / west						P	P		P	P	P	P	P		P	P			P	P
Ditch width (nearest metre)						20	3		3	4	2	3	3		3	2			2	2
Conductivity (µScm x 100)						24	32		18	34	100	32	97		17	18				34

Sample number	427	428	429	430	431	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447
Number of aquatic species	1	3	2	1	5	0	2	1	5	3	0	4	0	5	2	6	2	0	1	1
Number of emergent species	5	2	2	1	2	6	4	6	6	4	1	4	1	7	5	1	7	5	4	4
Number of bank species	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	0	0	1	1	1
Total number of species	7	5	4	2	7	7	7	8	12	7	1	8	1	13	8	7	9	6	6	6

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

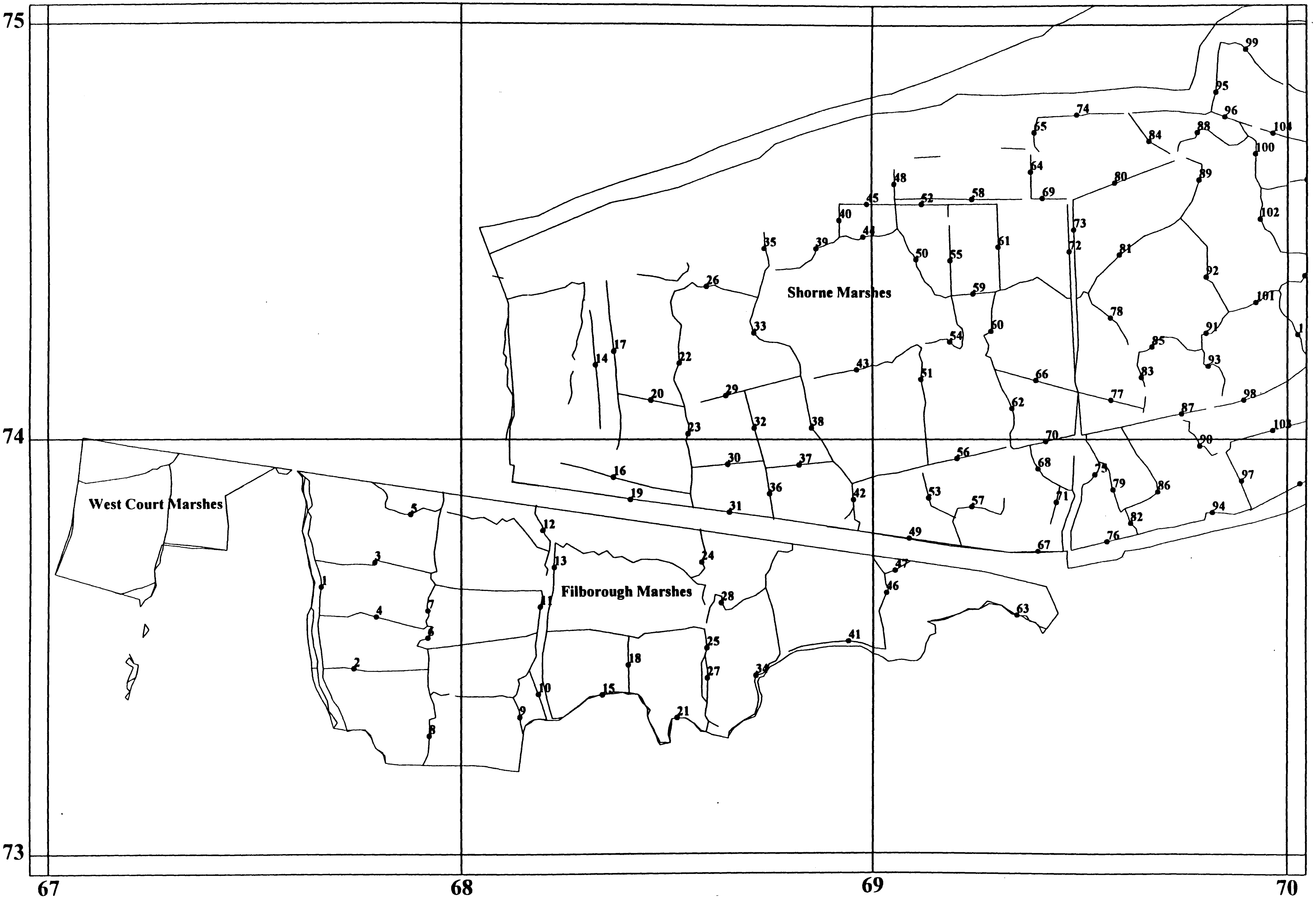
North Kent Marshes
1993 survey data (20 metre sample sections)
English Nature / National Rivers Authority

Sample number	448	449	450	451	452	453	454	455	456	Total	%
Azolla filiculoides					2					8	1.8
Callitriche obtusangula										42	9.4
Callitriche stagnalis/sp										21	4.7
Ceratophyllum demersum										15	3.3
Ceratophyllum submersum	4			1	5	6	4			126	28.1
Chara sp										4	0.9
Elodea canadensis										3	0.7
Elodea nuttallii										2	0.4
Hydrocharis morsus-ranae										19	4.2
Lemna gibba										28	6.2
Lemna minor										122	27.2
Lemna trisulca					5					122	27.2
Myriophyllum spicatum										64	14.3
Myriophyllum verticillatum										1	0.2
Potamogeton crispus										4	0.9
Potamogeton pectinatus					3	2	1		5	155	34.5
Potamogeton pusillus										10	2.2
Ranunculus baudotii	5	5			5					107	23.8
Spirodela polyrhiza										6	1.3
Zannichellia palustris										25	5.6
Alisma plantago-aquatica										19	4.2
Apium nodiflorum	1				5					42	9.4
Berula erecta										51	11.4
Eleocharis palustris	10	5			5	10	5	5		124	27.6
Eleocharis uniglumis										1	0.2
Equisetum fluviatile										1	0.2
Glyceria fluitans		5								16	3.6
Glyceria maxima										14	3.1
Hippuris vulgaris			10						1	12	2.7
Nasturtium officinale	1							1		50	11.1
Oenanthe crocata										1	0.2
Oenanthe fistulosa	10	5					4	5		51	11.4
Phragmites australis			10				5		10	143	31.8
Ranunculus sceleratus			1							10	2.2
Rumex hydrolapathum										7	1.6
Scirpus lacustris lacustris										2	0.4
Scirpus lacustris tabernaemontani								5		45	10.0
Scirpus maritimus	1	1	10	10	5			10	10	356	79.3
Sparganium erectum					10			2		47	10.5
Typha angustifolia			5						2	34	7.6
Typha latifolia										3	0.7
Veronica anagallis-aquatica										2	0.4
Veronica catenata	1		5		4				2	29	6.5
Agrostis stolonifera		5		5		5		10	5	81	18.0
Aster tripolium										6	1.3
Lycopus europaeus										4	0.9
Mentha aquatica										6	1.3
Myosotis scorpioides										8	1.8
Oenanthe lachenalii										3	0.7
Rumex maritimus										2	0.4
Triglochin palustris										1	0.2
Scrub cover										0	0
Ditch choked										27	6.0
Ditch dry										27	6.0
Adjacent land use north / east	P	P		P	P	P	P	P			
Adjacent land use south / west	P	P		P	P	P	P	P			
Ditch width (nearest metre)	2	1		4	2	4	4	3			
Conductivity (µScm x 100)	30	35		25	28	41	29	20			

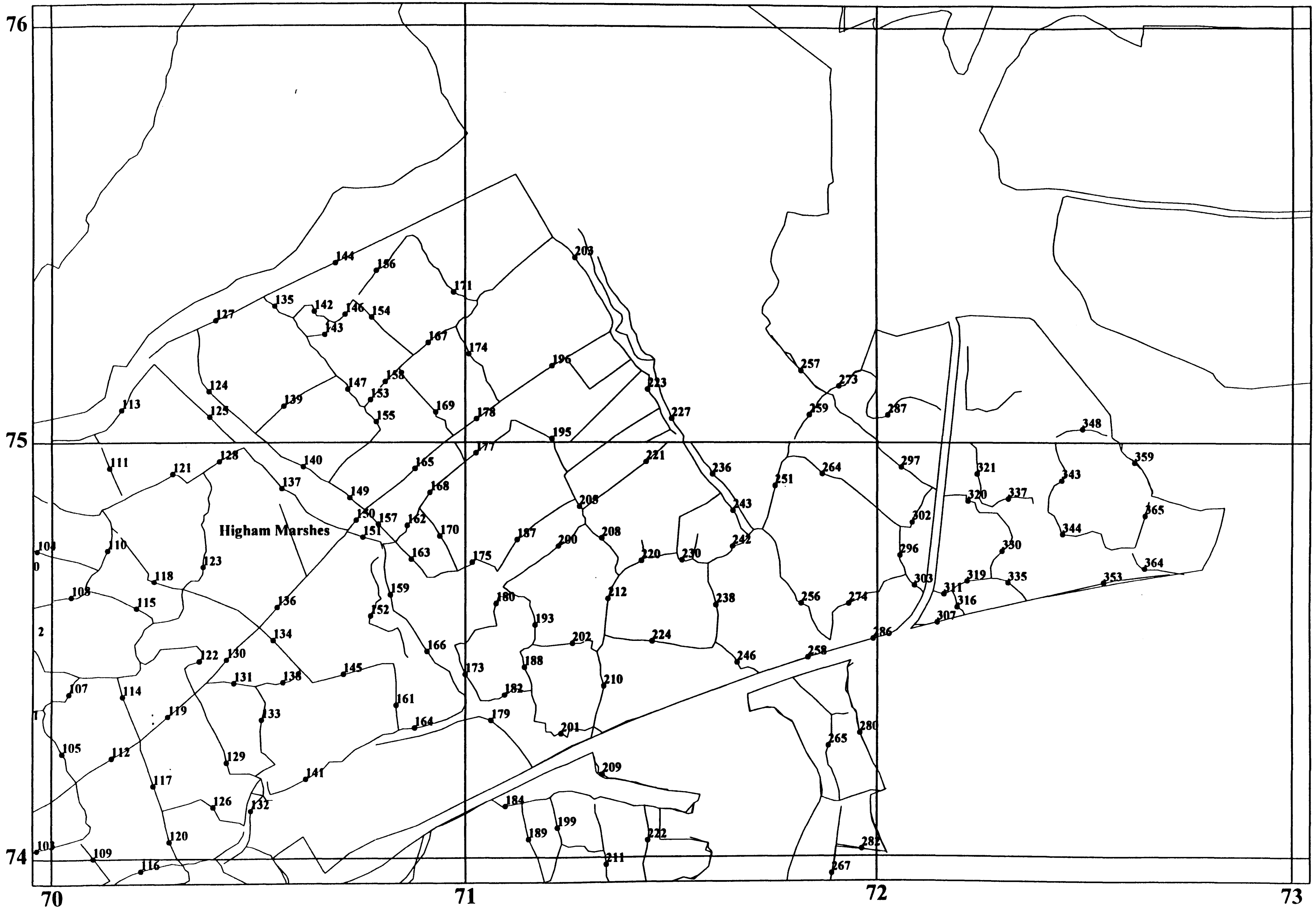
Sample number	448	449	450	451	452	453	454	455	456	Total	Average
Number of aquatic species	2	1	0	1	5	2	2	0	1	20	2.0
Number of emergent species	6	4	6	1	5	1	3	6	5	23	2.4
Number of bank species	0	1	0	1	0	1	0	1	1	8	0.2
Total number of species	8	6	6	3	10	4	5	7	7	51	4.6

Abundance recorded using a scale of 1 -10
Land use codes: P = pasture H = hay A = arable F = fence U = unmanaged

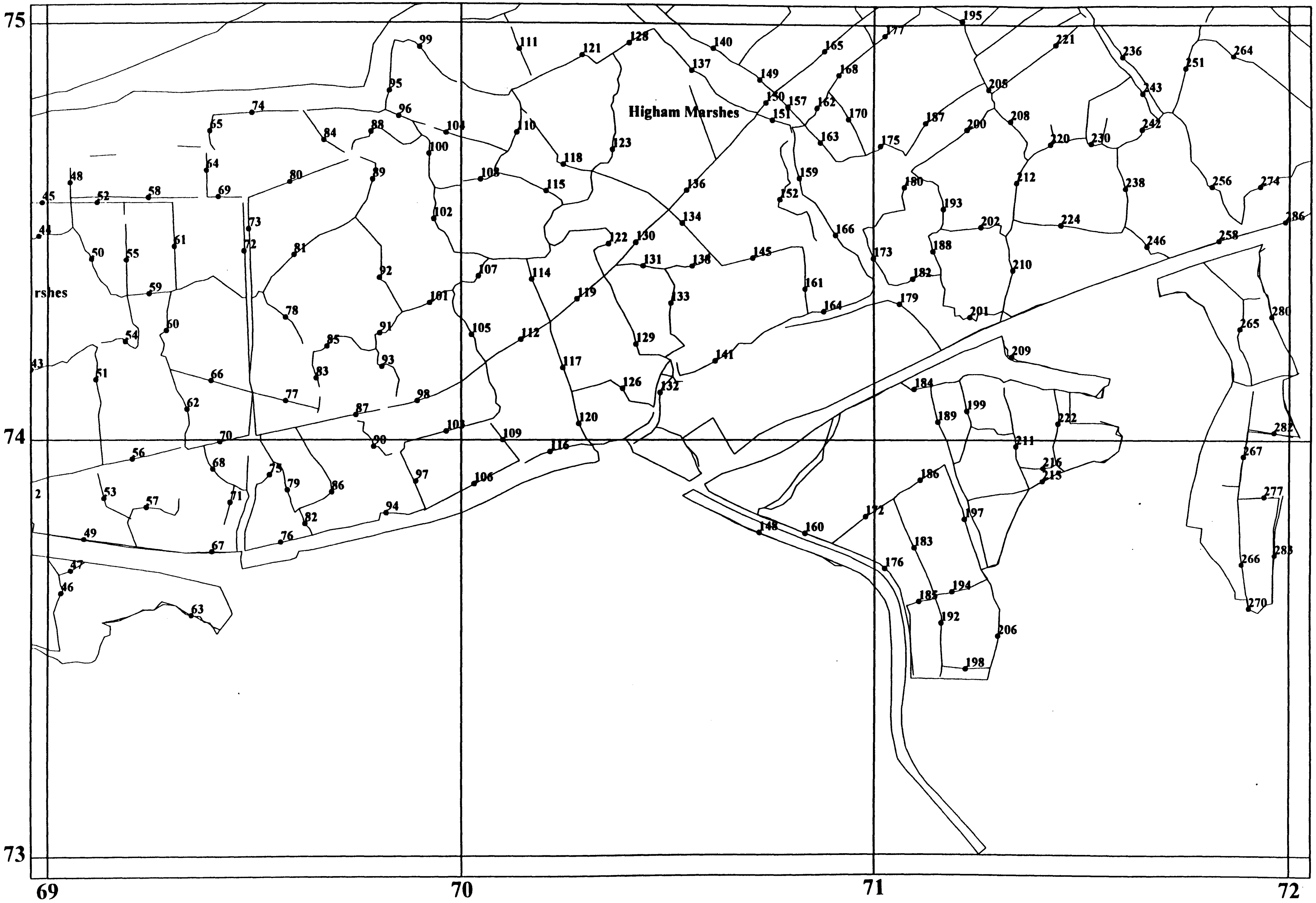
South Thames Estuary & Marshes SSSI - Ditch Numbering (East to West)



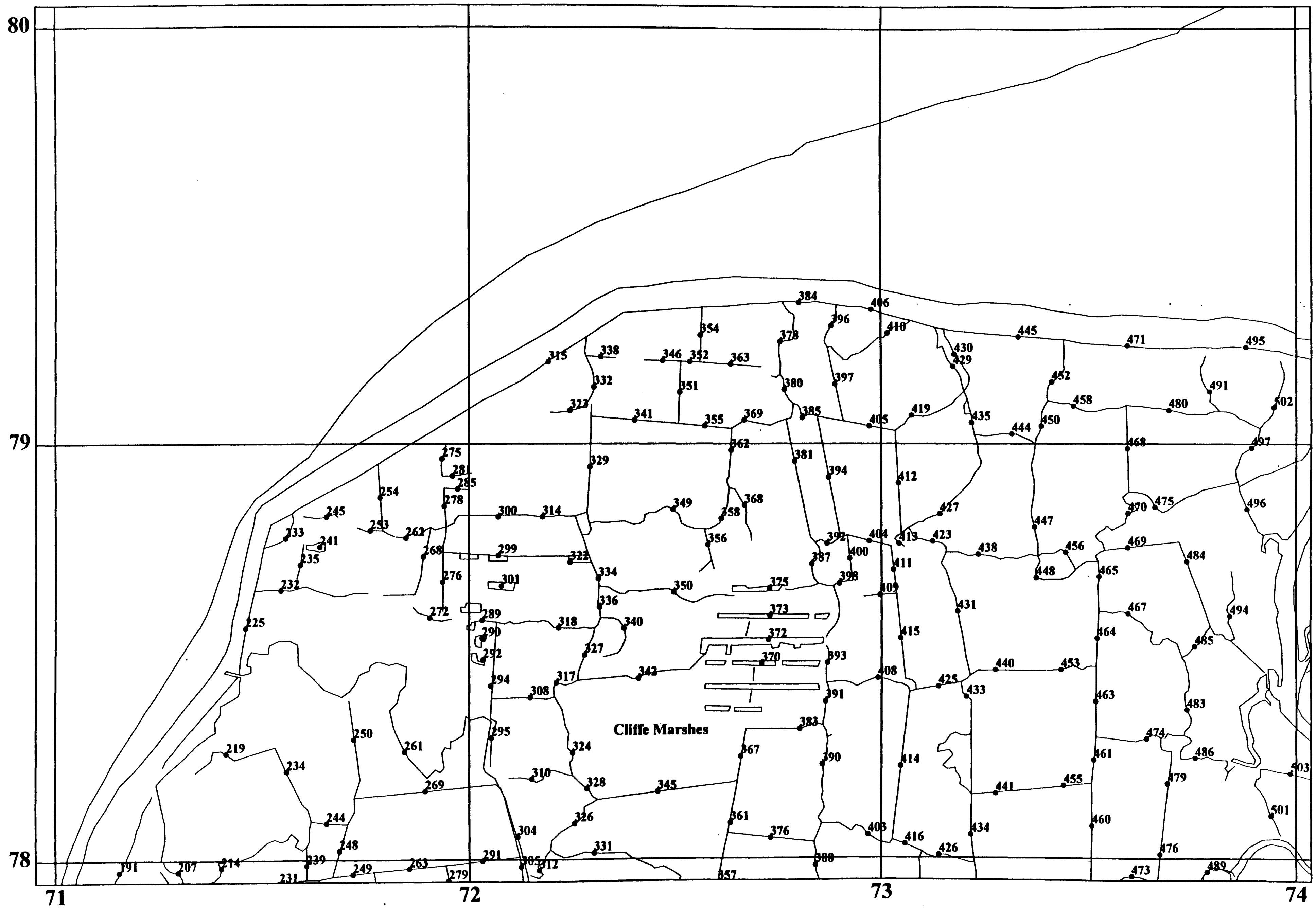
South Thames Estuary & Marshes SSSI - Ditch Numbering (East to West)



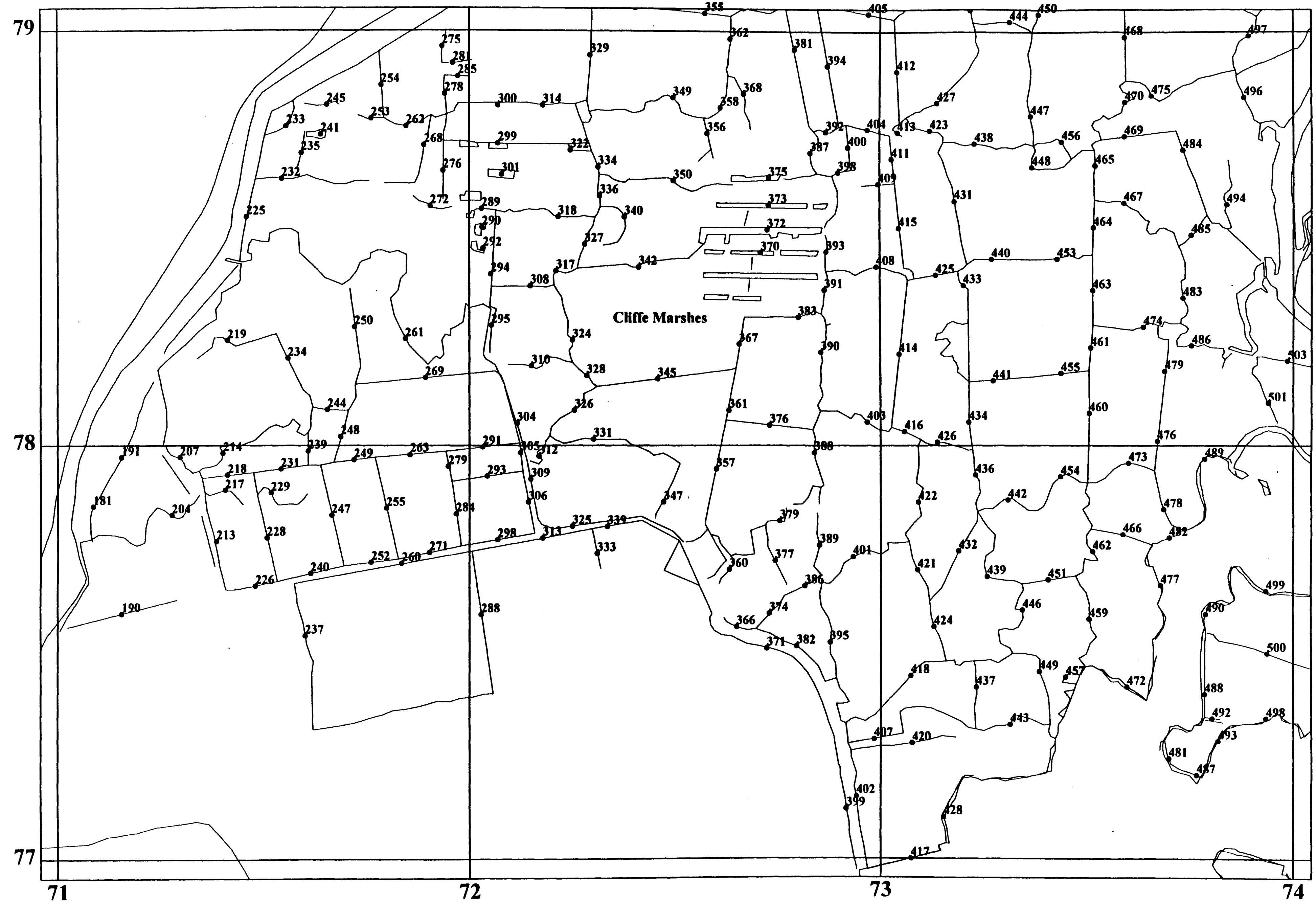
South Thames Estuary & Marshes SSSI - Ditch Numbering (East to West)



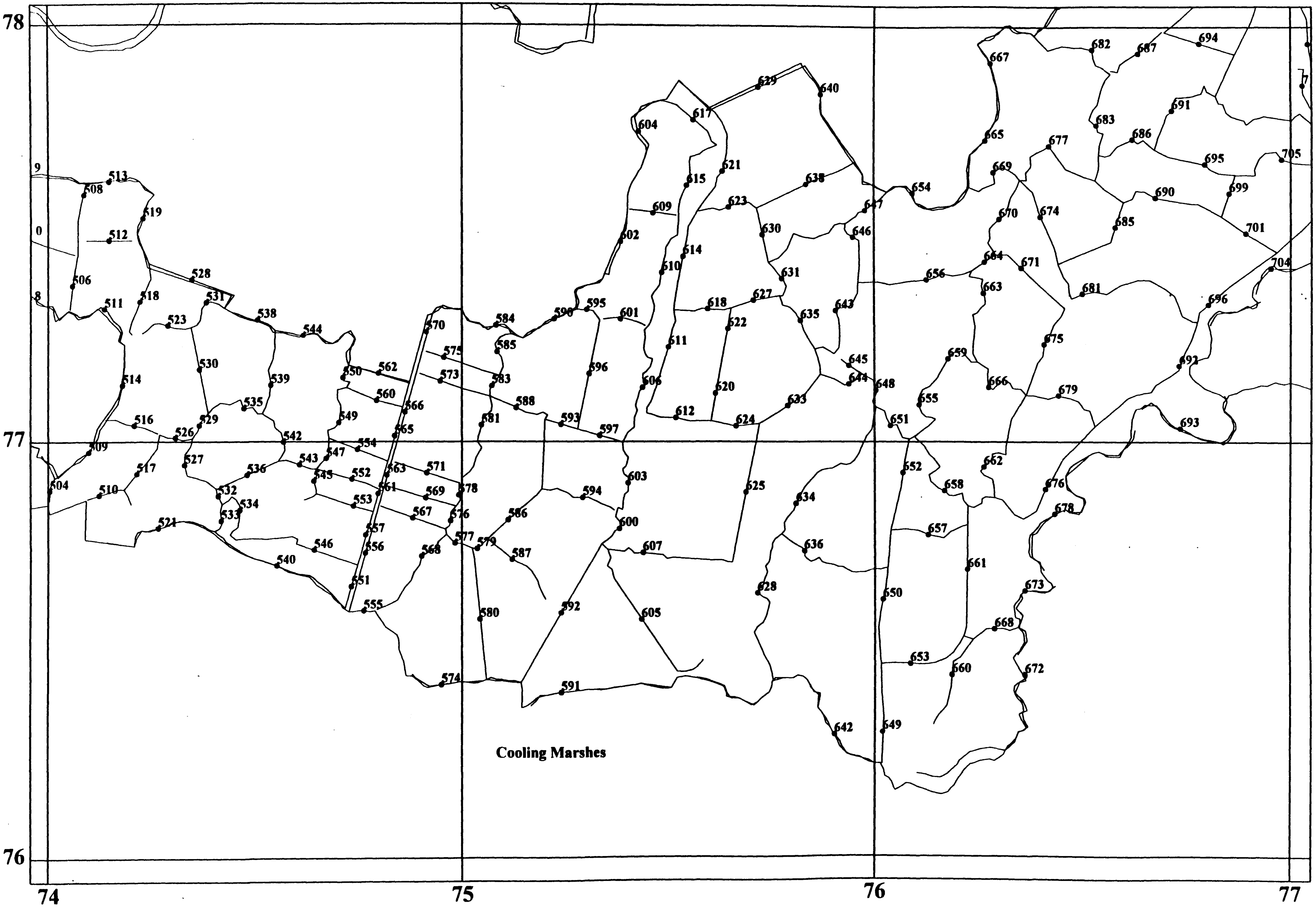
South Thames Estuary & Marshes SSSI - Ditch Numbering (East to West)



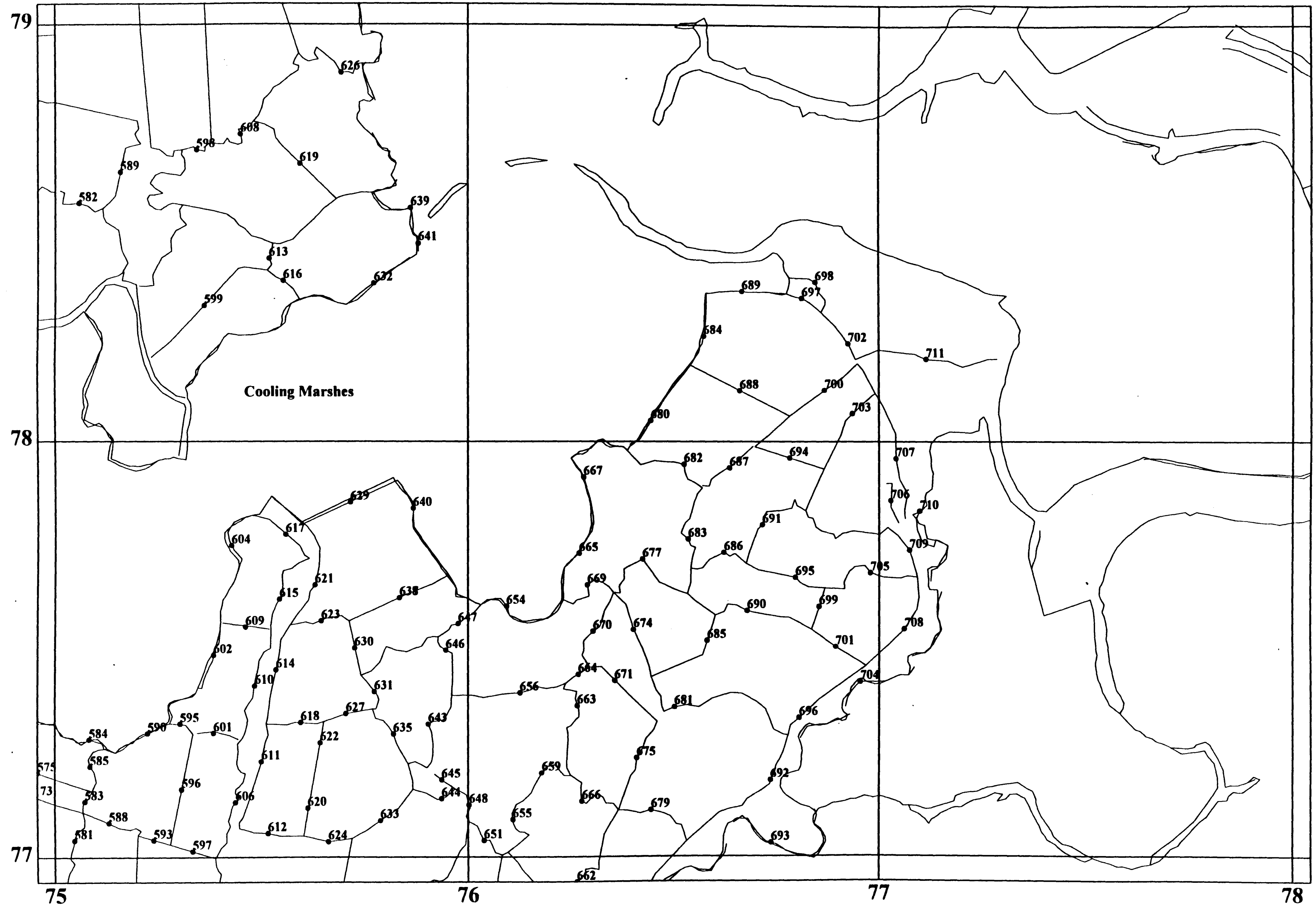
South Thames Estuary & Marshes SSSI - Ditch Numbering (East to West)



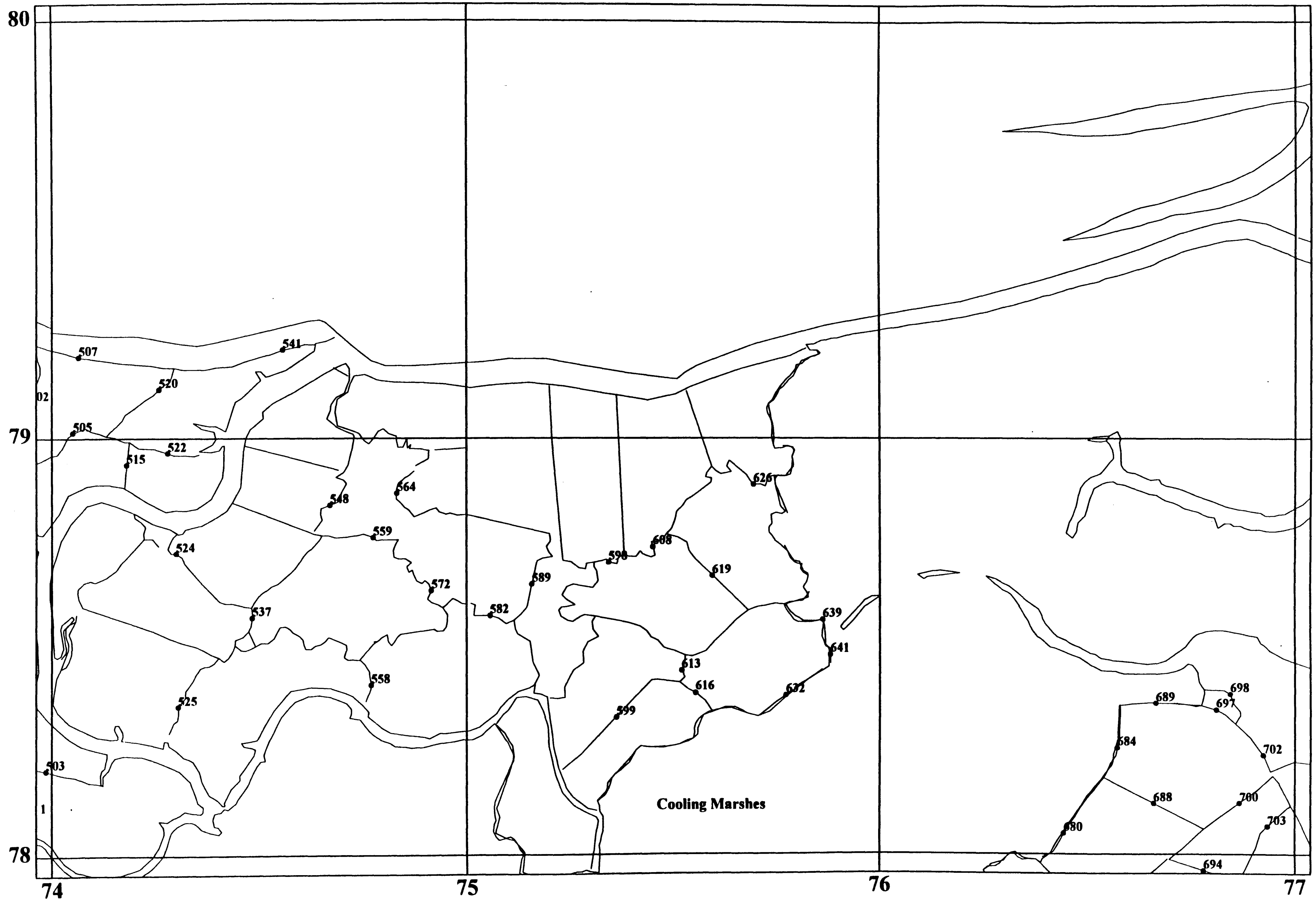
South Thames Estuary & Marshes SSSI - Ditch Numbering (East to West)



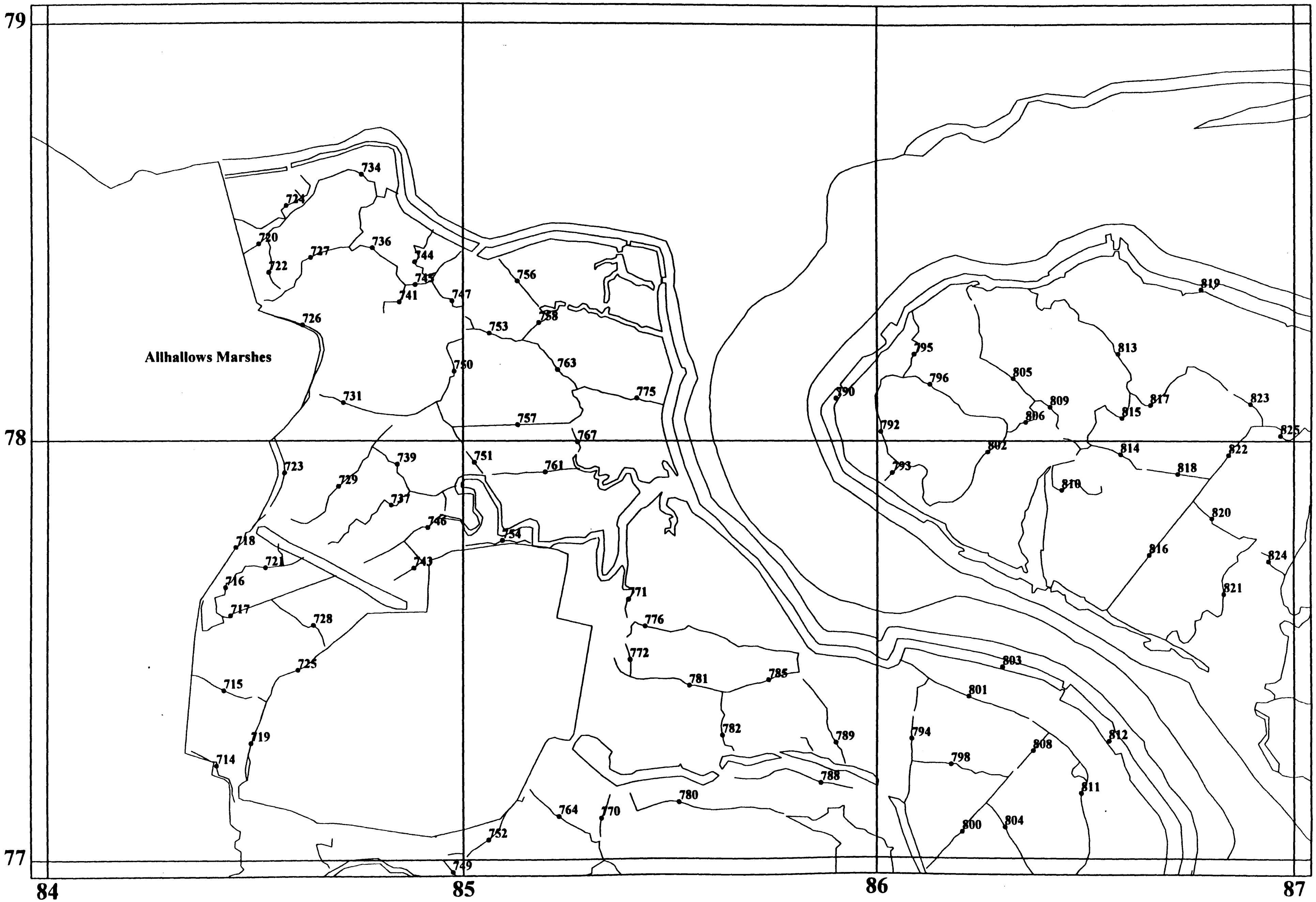
South Thames Estuary & Marshes SSSI - Ditch Numbering (East to West)



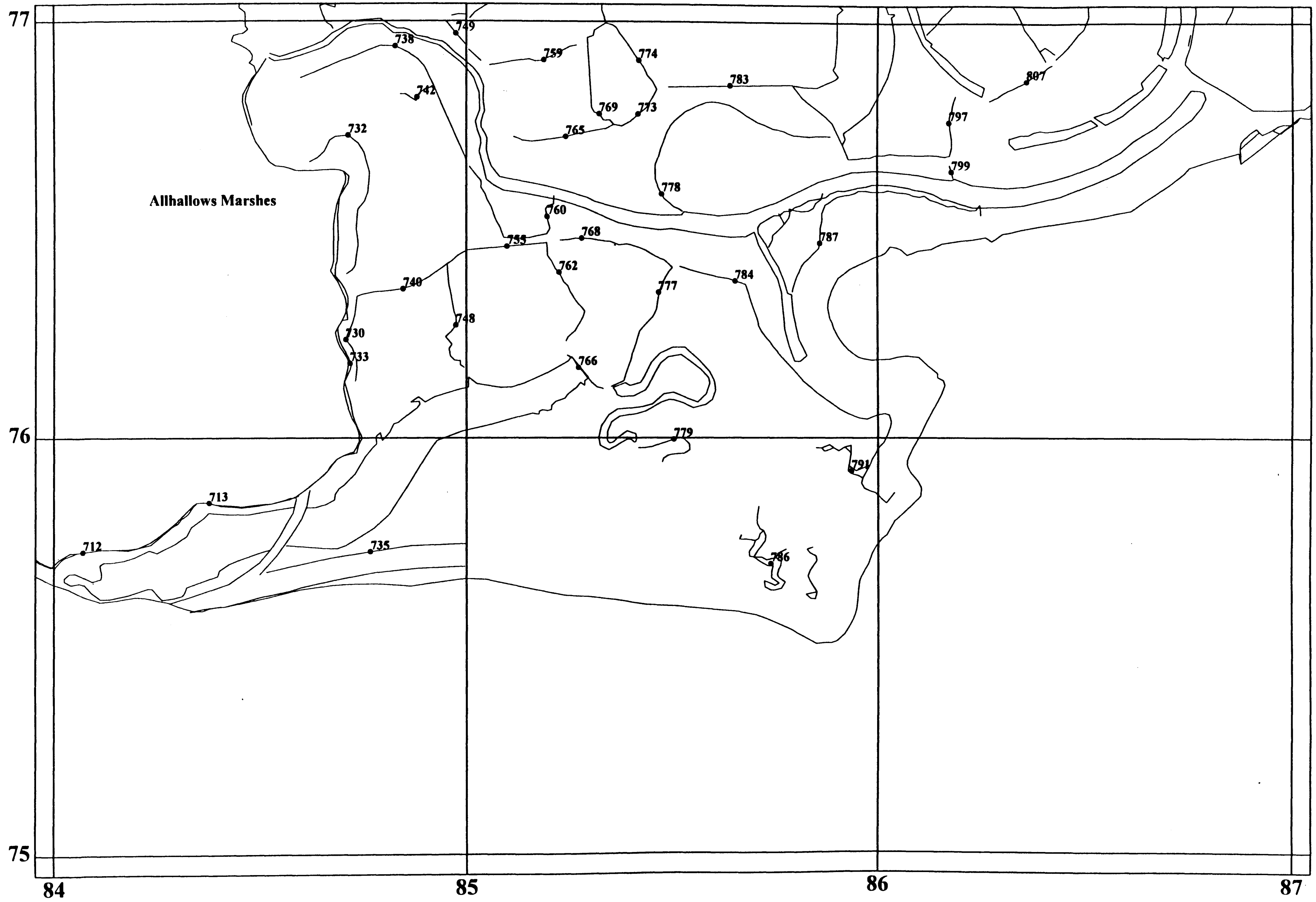
South Thames Estuary & Marshes SSSI - Ditch Numbering (East to West)



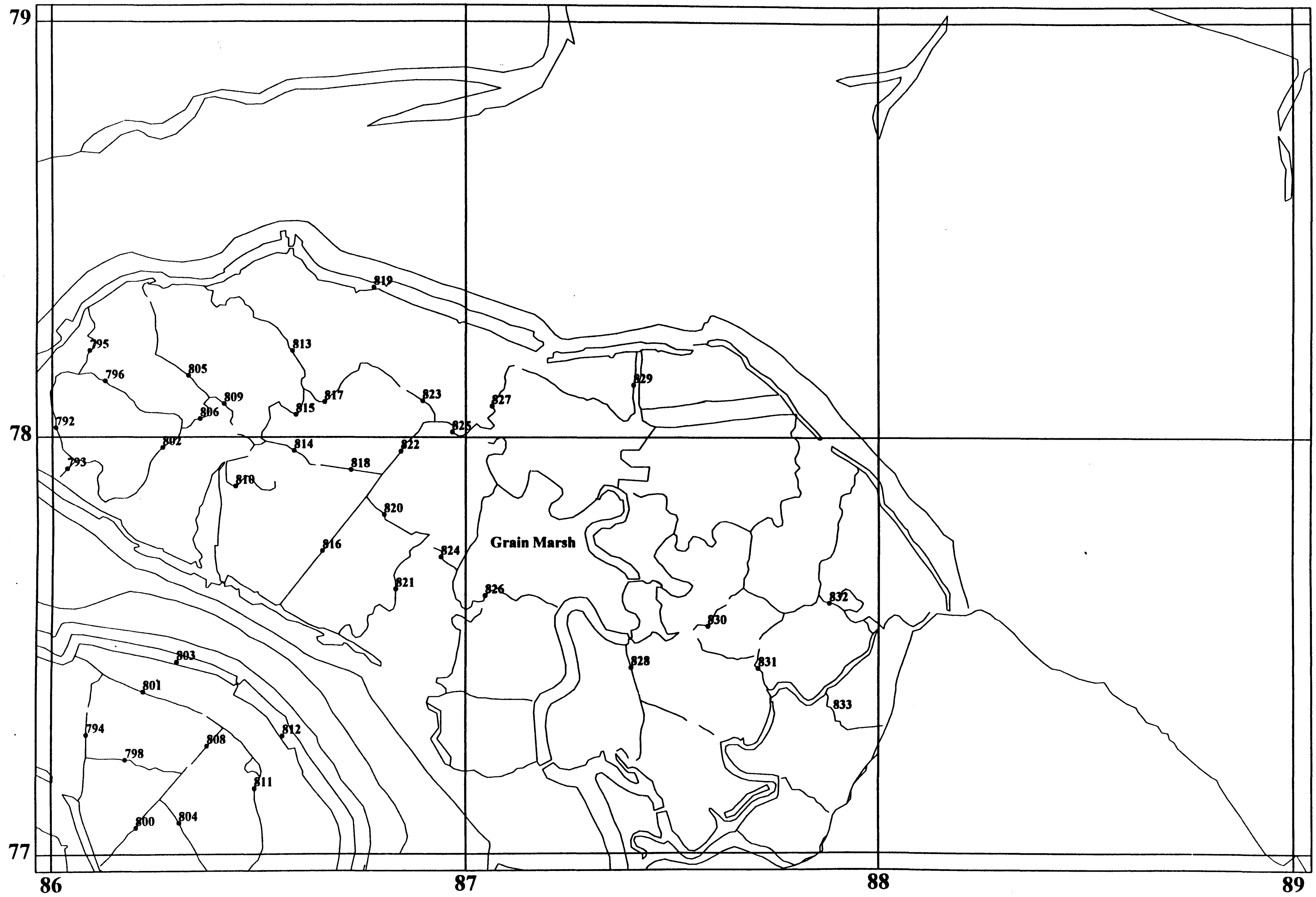
South Thames Estuary & Marshes SSSI - Ditch Numbering (East to West)



South Thames Estuary & Marshes SSSI - Ditch Numbering (East to West)



South Thames Estuary & Marshes SSSI - Ditch Numbering (East to West)



South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Azolla filiculoides			1			1		1										1	1	
Callitriche obtusangula			1	1												1	1	1	1	1
Callitriche stagnalis/spp																				
Ceratophyllum demersum			1																1	
Ceratophyllum submersum			1								1		1							
Chara sp																				
Elodea nuttallii																			1	
Enteromorpha sp†																			1	
Filamentous algae†				1									1				1		1	1
Hydrocharis morsus-ranae																			1	
Lemna gibba		1	1		D	D	1	1	D	1			1					D	1	
Lemna miniscula																				
Lemna minor	1	1	1	1	D	1	1	1	1	1	1		1		D	1	1	1	1	
Lemna trisulca	1	1	1	1	D	1	1	1		1	1		1		D		1	1		
Myriophyllum aquaticum																				
Myriophyllum spicatum																				
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus		1					1				1									
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii				1	1						1					1	1			1
Ranunculus circinatus																				
Ranunculus trichophyllus																				
Ranunculus seedling	1																			
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																	1			
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																			1	
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris		1	1		1	1	1	1			1							1	1	
Equisetum fluviatile																				
Glyceria fluitans						1		1	D			1						1		
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg		1				1	1	1					1					1	1	
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*	3									2	2								1	
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*		2			1	1	2	1					1	2		2	3		1	3
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																			1	
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata														1			1			
Aster tripolium																				
Carex acuta																				
Carex divisa			1	1	1		1				1	1	1	1		1	1	1		
Carex otrubae		1			1		1			1		1	1						1	
Chenopodium chenopodioides																	1			
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus		1	1	1	1	1		1	1	1		1			D			1	1	
Juncus gerardii													1							
Juncus maritima																1	1			1
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																		1		
Oenanthe lachenalii																1	1			
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara	1							1							1					
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*	2							2		1				1	2					
Ditch choked	1								1											
Ditch dry (N = near dry)												1		1						
Width (nearest metre)	3	4	3	3	2	3	4	3	1	2	3	2	3	1	3	3	3	3	5	3
Land use north / east	F	F	P	P	P	P	H	H	H	H	H	P	P	P	F	P	P	P	P	P
Land use south / west	A	P	P	P	P	P	P	P	H	P	P	P	H	P	H	P	P	P	U	P
Conductivity (µScm x 100)	9	9	15	8	9	24	10	8	5	14	24		9		11	48	71	12	11	59

Ditch Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Number of aquatic species	3	4	7	4	4	4	4	4	2	3	5	0	4	0	2	3	5	5	7	2
Number of emergent species	1	3	1	0	2	4	3	4	1	1	2	1	2	1	0	1	1	3	6	1
Number of bank species	1	2	2	2	3	1	2	2	1	2	1	3	3	2	2	3	5	3	2	1
Total number of species	5	9	10	6	9	9	9	10	4	6	8	4	9	3	4	7	11	11	15	4

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch number	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Azolla filiculoides				1																
Callitriche obtusangula	1	1			1	1					1		1							1
Callitriche stagnalis/spp																				
Ceratophyllum demersum													1					1		
Ceratophyllum submersum				1									1		1					
Chara sp																				
Elodea nuttallii											1		1					1		
Enteromorpha sp†						1					1		1					1		
Filamentous algae†						1					1									
Hydrocharis morsus-ranae											1									
Lemna gibba				D	D			D			1									
Lemna miniscula					D															
Lemna minor	D	1	1	D	D	1		D			1		1		1			1		
Lemna trisulca		1		D		1		1			1		1		1			1		
Myriophyllum aquaticum																				
Myriophyllum spicatum													1					1		
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus													1					1		
Potamogeton pusillus/berchtoldii											1									
Ranunculus baudotii			1											1						1
Ranunculus circinatus																				
Ranunculus trichophyllus													1		1			1		
Ranunculus seedling																	1			
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris		1																		
Alisma plantago-aquatica								1												
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris				1	1			1												
Equisetum fluviatile																				
Glyceria fluitans	1			1	1	1	D	1						D					D	D
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg				1	1			1			1		1	1						
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*											2									
Ranunculus sceleratus											1	1		1	1					
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*		2	2			2			1	1		1	2		2	1	1	2	1	2
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†									1	1		1				1	1			
Atriplex hastata										1						1	1			
Aster tripolium																				
Carex acuta																				
Carex divisa				1					1	1	1	1			1	1	1		1	
Carex otrubae		1			1	1		1	1		1		1		1			1	1	
Chenopodium chenopodioides			1																	
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus	1																			
Juncus inflexus	1			1	1		1	1	1				1	1				1		
Juncus gerardii																				
Juncus maritima		1	1																	
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa								1												
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara													1						1	
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*	2	1			1	1	2		1				2	1	1		1	1	3	1
Ditch choked																				
Ditch dry (N = near dry)							1		1	1		1		1		1	1		1	N
Width (nearest metre)	2	3	3	3	3	2	2	3	2	1	5	2	5	4	5	2	1	5	3	2
Land use north / east	P	P	P	P	H	P	P	P	P	P	P	P	P	H	P	P	P	P	P	P
Land use south / west	P	P	P	P	P	P	P	H	P	P	U	P	P	F	P	P	P	P	P	P
Conductivity (µScm x 100)	13	58	61	12	11			9			9		22		27			17		58

Ditch Number	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Number of aquatic species	2	4	2	5	4	3	0	3	0	0	7	0	9	1	4	0	1	7	0	2
Number of emergent species	1	1	1	3	3	2	1	4	1	1	3	2	2	3	2	1	1	1	2	2
Number of bank species	2	2	2	2	2	1	1	3	3	2	2	1	3	1	2	2	2	2	3	0
Total number of species	5	7	5	10	9	6	2	10	4	3	12	3	14	5	8	3	4	10	5	4

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch number	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Azolla filiculoides																1				
Callitriche obtusangula			1		1	1	1	1			1			1	1			1		1
Callitriche stagnalis/spp																				
Ceratophyllum demersum							1													
Ceratophyllum submersum																				
Chara sp																				
Elodea nuttallii		1				1										1				
Enteromorpha sp†		1														1				
Filamentous algae†		1				1		1			1				1	1				
Hydrocharis morsus-ranae		1														1				
Lemna gibba			1													1	D			
Lemna miniscula																				
Lemna minor		1				1	1				1		1			1	1			1
Lemna trisulca		1				1	1		D				1			1	1			1
Myriophyllum aquaticum																				
Myriophyllum spicatum																				
Nymphaea alba																				
Potamogeton crispus						1														
Potamogeton pectinatus						1														
Potamogeton pusillus/berchtoldii		1				1										1				
Ranunculus baudotii						1	1							1						
Ranunculus circinatus																				
Ranunculus trichophyllus					1															
Ranunculus seedling				1																
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris					1										1					
Alisma plantago-aquatica		1				1	1									1				
Apium nodiflorum						1														
Berula erecta		1														1	1			
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris		1				1			1							1				
Equisetum fluviatile																				
Glyceria fluitans	1		1	D		1				D	1	1	D	1	1			1		
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg		1																		
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*		2						1	1			1		1				1	1	
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*			2	1	3			3	1		2	2		2	3	1	1	2		1
Sparganium erectum																1				
Typha angustifolia																				
Typha latifolia							1		1											
Veronica catenata																				
Grass dom (Agro/Alop)†	1																			
Atriplex hastata																				
Aster tripolium																				
Carex acuta																				
Carex divisa			1	1						1		1	1							
Carex otrubae		1					1			1		1			1	1		1	1	
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum									1											
Eupatorium cannabinum																				
Galium palustre	1						1													
Glaux maritima																				
Juncus effusus							1													
Juncus inflexus	1	1				1	1	1	1	1	1	1	1		1	1	1	1		
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus		1					1													
Mentha aquatica																				
Myosotis cespitosa							1													
Oenanthe lachenalii														1						
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi							1													
Scutellaria galericulata																				
Solanum dulcamara	1													1						
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*	3		2	3	1			1	1	2	2			2	1	1			3	3
Ditch choked																				
Ditch dry (N = near dry)	1			1						1	1	1	N	1					1	N
Width (nearest metre)	2	5	2	3	2	4	3	3	3	2	2	2	2	2	1	6	2	2	1	2
Land use north / east	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Land use south / west	F	P	P	P	P	P	P	P	U	P	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)		9	64		48	8	6		7				16		53	17	10	49		54

Ditch Number	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Number of aquatic species	0	5	2	1	3	8	5	1	1	0	2	0	2	2	2	7	3	1	0	3
Number of emergent species	1	5	2	2	1	4	2	2	4	1	2	3	1	3	2	5	2	3	1	1
Number of bank species	3	3	1	1	0	1	7	1	2	3	1	3	2	2	2	2	1	2	1	0
Total number of species	4	13	5	4	4	13	14	4	7	4	5	6	5	7	6	14	6	6	2	4

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch number	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Azolla filiculoides					1															
Callitriche obtusangula		1	1	1			1									1		1		1
Callitriche stagnalis/spp																				
Ceratophyllum demersum										1										
Ceratophyllum submersum																		D		
Chara sp																				
Elodea nuttallii										1										
Enteromorpha sp†																				1
Filamentous algae†					1					1								1		1
Hydrocharis morsus-ranae											1									
Lemna gibba										1										
Lemna miniscula							D				D					D				
Lemna minor		1	1		1	1		D		1	1		D	1	1			1		1
Lemna trisulca							1	1		1	1							1		
Myriophyllum aquaticum							1													
Myriophyllum spicatum																				
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus																		1		
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii		1			1	1														1
Ranunculus circinatus																				
Ranunculus trichophyllus																				
Ranunculus seedling															1					
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris					1															
Alisma plantago-aquatica																				
Apium nodiflorum			1																	
Berula erecta																		1		
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris					1					1										1
Equisetum fluviatile																				
Glyceria fluitans	D	1	D	D	1				1											
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg			1														1			
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*	1			1	1			1	1	1	1	2						1		
Ranunculus sceleratus			1							1		1			1					
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*		3		2	2	2			2	1			2	1	1		1	2		2
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia							1									1				
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex acuta																				
Carex divisa	1	1	1		1	1														
Carex otrubae	1					1	1	1	1		1	1		1			1			
Chenopodium chenopodioides					1															
Crassula helmsii																1				
Epilobium hirsutum							1									1				
Eupatorium cannabinum																				
Galium palustre																	1			
Glaux maritima																				
Juncus effusus								1								1				
Juncus inflexus		1	1	1		1	1	1	1	1	1	1	1	1		1		1	1	
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus							1												1	
Mentha aquatica																				
Myosotis cespitosa			1																	
Oenanthe lachenalii		1				1														1
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																1				
Solanum dulcamara													1		1		1			
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*	2	1	2	2		2	2	2	2		1	2	3	1	3	2	3	1	3	1
Ditch choked		1							1											
Ditch dry (N = near dry)	1		N	1								1	N	1	N		1		1	
Width (nearest metre)	2	2	3	2	4	2	2	4	2	5	2	2	2	2	2	4	2	3	2	2
Land use north / east	P	P	P	P	P	P	P	P	P	P	P	U	P	P	P	P	P	P	P	P
Land use south / west	P	P	F	P	P	P	U	P	P	P	P	P	U	P	P	U	P	P	P	P
Conductivity (µScm x 100)		37	9		28	33	8	8		8	7		36		29	6		39		

Ditch Number	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Number of aquatic species	0	3	2	1	4	2	4	2	0	5	4	0	1	1	2	2	0	5	0	3
Number of emergent species	2	2	4	3	4	1	1	1	3	4	1	2	1	1	2	1	2	3	0	2
Number of bank species	2	3	3	1	2	4	4	3	2	1	2	2	2	2	1	5	3	1	2	1
Total number of species	4	8	9	5	10	7	9	6	5	10	7	4	4	4	5	8	5	9	2	6

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Azolla filiculoides																				
Callitriche obtusangula				1							1	1	1				1			
Callitriche stagnalis/spp																				
Ceratophyllum demersum																		1		1
Ceratophyllum submersum	D		1	1				D	D		D						D		D	
Chara sp																				
Elodea nuttallii							1								1	1		1		1
Enteromorpha sp†							1	1			1				1		1	1	1	
Filamentous algae†	1		1				1	1	1						1			1	1	
Hydrocharis morsus-ranae							1											1		
Lemna gibba					1		1			D		1						1		
Lemna miniscula		D				D								D						
Lemna minor	1		1	1	D		1	1	1	1	1	D	1		1	1	1	1	1	1
Lemna trisulca	1		1	1	1	1	1	1	1	1		1	1		1	1	1	1	1	1
Myriophyllum aquaticum																				
Myriophyllum spicatum															1					
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus				1											1	1			1	1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii									1						1	1				1
Ranunculus circinatus																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris											1									
Alisma plantago-aquatica						1	1											1		
Apium nodiflorum																				
Berula erecta	1		1	1	1		1	1	1	1		1	1	1		1		1	1	1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1			1				1	1	1					1	1		1		1
Equisetum fluviatile																				
Glyceria fluitans							1			1			1					1		
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg			1				1									1		1	1	1
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*	1		3																2	1
Ranunculus sceleratus						1													1	
Rumex hydrolapathum							1									1		1		1
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	2			2	2		1	2	2	2	2	2	2		2	2	2	1		2
Sparganium erectum							1								1			1		
Typha angustifolia						1														
Typha latifolia						1														
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																	1			
Aster tripolium																				
Carex acuta																				
Carex divisa				1								1					1		1	
Carex otrubae			1			1	1	1					1	1		1		1	1	
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum														1						
Eupatorium cannabinum							1													
Galium palustre																				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus	1		1	1	1	1	1	1		1	1		1	1			1	1	1	1
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus						1	1											1		
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii			1		1	1			1			1					1	1		
Polypogon monspeliensis																				
Pulicaria dysenterica														1						
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara					1															
Spergularia marina															1					
Spergularia media																				
Triglochin palustre																				
Scrub cover*	1	3	2		2	2	1	2	1	2	2	1	1	3		1	2			
Ditch choked						1														
Ditch dry (N = near dry)																				
Width (nearest metre)	3	3	2	5	3		6	3	4	2	3	2	3	3	4	4	2	6	5	4
Land use north / east	P	P	F	P	P	P	P	P	P	P	P	P	P	P	P	F	P	P	H	P
Land use south / west	P	P	P	P	F	P	P	P	P	P	F	P	F	U	P	P	P	P	P	P
Conductivity (µScm x 100)	38	6	23	37	23	7	11	4	40	25	21	34	31	5	26	33	44	6	21	32

Ditch Number	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Number of aquatic species	3	1	3	5	3	2	5	3	4	3	4	4	3	1	6	5	4	6	4	6
Number of emergent species	4	0	3	3	2	4	7	3	3	4	1	2	3	1	3	5	1	8	4	6
Number of bank species	1	0	3	2	3	4	4	2	1	1	1	2	2	4	1	1	4	4	3	1
Total number of species	8	1	9	10	8	10	16	8	8	8	6	8	8	6	10	11	9	18	11	13

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Azolla filiculoides		1																		
Callitriche obtusangula								1									1			
Callitriche stagnalis/spp						1														
Ceratophyllum demersum												1		1			1		1	
Ceratophyllum submersum		1								1	1				1					
Chara sp																				
Elodea nuttallii		1								1		1	1		1		1		1	
Enteromorpha sp†										1		1			1					
Filamentous algae†											1	1	1	1						1
Hydrocharis morsus-ranae												1					1	1	1	
Lemna gibba		1	1				1					1					D		1	1
Lemna miniscula						D										D				
Lemna minor	D	1	D		1	1	D	1	1	1		1		1	1	1	1		1	1
Lemna trisulca	D	1	D		1		1		1	D	1	1	1	D	1		1	1	1	1
Myriophyllum aquaticum																				
Myriophyllum spicatum															1					
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus		1								1					1					
Potamogeton pusillus/berchtoldii		1													1					
Ranunculus baudotii					1			1							1					1
Ranunculus circinatus																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																	1			
Zannichellia palustris		1																		
Alisma plantago-aquatica												1					1			
Apium nodiflorum																				
Berula erecta	1			1	1	1		1	1	1		1		1	1		1	1		
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris		1		1			1	1		1		1		1			1		1	
Equisetum fluviatile																				
Glyceria fluitans				D		1		1											1	1
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg						1								1					1	
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*										2					1			3		2
Ranunculus sceleratus								1			1			1					1	
Rumex hydrolapathum												1		1			1		1	
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	2	2	3	2			2	2			3	1	2						1	
Sparganium erectum												1					1		1	1
Typha angustifolia					D															
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata							1													
Aster tripolium																				
Carex acuta																				
Carex divisa					1			1			1			1						
Carex otrubae				1	1			1	1										1	1
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				1
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus			1			1										1				
Juncus inflexus	1	1	1	1	1	1	1	1	1	1		1		1	1	1	1	1	1	1
Juncus gerardii											1									
Juncus maritima																				
Lycopus europaeus												1					1		1	1
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii	1	1							1											
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara						1			1											1
Spergularia marina																				
Spergularia media																				
Triglochin palustre										1		1		1						
Scrub cover*	2		1	1	1	1	1		3			1				3				1
Ditch choked			1		1						1									
Ditch dry (N = near dry)				1				1												
Width (nearest metre)	3	4	3	2	3	3	3	2	3	5	1	6	3	4	5	3	5	2	6	2
Land use north / east	P	P	P	P	P	P	P	P	P	H	H	P	H	P	P	P	P	H	P	P
Land use south / west	P	P	P	P	P	U	P	P	P	P	H	P	H	P	P	U	P	H	P	P
Conductivity (µScm x 100)	29	31	28		26	9	24		30	18	67	6	20	34	16	10	6	9	9	

Ditch Number	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Number of aquatic species	2	9	3	0	3	3	3	3	2	5	2	6	2	3	8	2	8	2	6	4
Number of emergent species	2	2	1	4	2	3	2	5	1	3	2	6	1	5	2	0	5	2	7	3
Number of bank species	2	2	2	2	3	3	2	3	4	2	2	3	0	3	1	2	2	1	3	5.
Total number of species	6	13	6	6	8	9	7	11	7	10	6	15	3	11	11	4	15	5	16	12

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
Azolla filiculoides												D								
Callitriche obtusangula											1					1				
Callitriche stagnalis/spp						1														
Ceratophyllum demersum		1				1				1			1			1				
Ceratophyllum submersum							1						1	1	1		1	1	1	1
Chara sp																				
Elodea nuttallii		1					1		D	D					1	D	1			
Enteromorpha sp†		1			1				1	1	1					1	1			
Filamentous algae†	1				1												1			
Hydrocharis morsus-ranae						1				1	1					1	1			
Lemna gibba						D									1					
Lemna miniscula						1						1								
Lemna minor		1	1			1		1		1	1		1	D	1	1		1		
Lemna trisulca	1	1	1	1	1	1	1	1	1		D		D	D	1		1	D	1	1
Myriophyllum aquaticum																				
Myriophyllum spicatum					1															
Nymphaea alba																				
Potamogeton crispus					1					1						1				
Potamogeton pectinatus		1																		
Potamogeton pusillus/berchtoldii					1					1						1	1		1	
Ranunculus baudotii							1		1	1										
Ranunculus circinatus																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides						1														
Zannichellia palustris									1											
Alisma plantago-aquatica						1														
Apium nodiflorum																				
Berula erecta	1	1	1			1	1	1	1	1	1				1	1			1	1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris		1				1				1			1			1			1	
Equisetum fluviatile																				
Glyceria fluitans										1										
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg		1		1					1	1					1	1				1
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*			2	3	1			2				3								1
Ranunculus sceleratus	1								1	1						1				1
Rumex hydrolapathum		1				1					1			1						
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	1				1		2		1						2				1	
Sparganium erectum	1					1		1		1				1		1	1	1		
Typha angustifolia																				
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex acuta																				
Carex divisa			1		1			1		1			1	1			1	1		1
Carex otrubae	1	1	1	1		1		1	1	1	1	1	1					1		
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum												1								
Eupatorium cannabinum																				
Galium palustre													1	1				1		
Glaux maritima																				
Juncus effusus														1						
Juncus inflexus	1	1	1	1		1	1	1	1	1	1		1	1	1	1	1	1		
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus						1			1		1									
Mentha aquatica																				
Myosotis cespitosa																		1		
Oenanthe lachenalii		1																		
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi									1											
Scutellaria galericulata						1					1			1				1		
Solanum dulcamara														1						
Spergularia marina																				
Spergularia media																				
Triglochin palustre		1							1											
Scrub cover*												1	1	1						
Ditch choked																				
Ditch dry (N = near dry)																				
Width (nearest metre)	3	4	2	1	4	4	4	2	4	6	2	3	2	3	2	6	5	2	3	4
Land use north / east	H	P	H	H	H	P	H	H	P	P	P	U	P	P	H	P	U	P	H	H
Land use south / west	H	P	H	H	H	P	H	H	P	P	P	U	P	P	H	P	H	P	H	U
Conductivity (µScm x 100)	40	7	30	19	10	7	17	8	10	8	11	8	32	9	20	7	6	21	42	32

Ditch Number	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
Number of aquatic species	1	5	2	1	4	8	4	2	4	7	4	2	4	3	5	7	5	3	3	2
Number of emergent species	4	4	2	2	2	5	2	3	4	6	2	1	1	2	3	5	1	1	3	4
Number of bank species	2	4	3	2	1	4	1	3	5	3	4	2	4	6	1	1	2	6	0	1
Total number of species	7	13	7	5	7	17	7	8	13	16	10	5	9	11	9	13	8	10	6	7

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Azolla filiculoides	1				D															
Callitriche obtusangula	1																1		1	1
Callitriche stagnalis/spp																				1
Ceratophyllum demersum																				1
Ceratophyllum submersum		1				1		1					1	1	1	1	1			
Chara sp																				
Elodea nuttallii	1			1					1	1	1						1		1	
Enteromorpha sp†	1									1	1			1	1		1		1	
Filamentous algae†						1	1		1	1	1		1			1	1			
Hydrocharis morsus-ranae	1																1		1	
Lemna gibba																				
Lemna miniscula					1															D
Lemna minor	1	1	1	1		1		1			1						1	1	1	
Lemna trisulca		1	1	1	1	1	1		1	1	1		1	1	1	1		1		
Myriophyllum aquaticum																				
Myriophyllum spicatum																				
Nymphaea alba																				1
Potamogeton crispus	1																		1	
Potamogeton pectinatus	1					1										1				
Potamogeton pusillus/berchtoldii																			1	
Ranunculus baudotii									1											
Ranunculus circinatus																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta	1		1	1			1		1	1	1		1	1	1	1	1	1	1	1
Butomus umbellatus																		1		
Carex riparia																				
Eleocharis palustris		1				1			1	1	1		1					1		
Equisetum fluviatile																				
Glyceria fluitans	1											1								
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg				1					1									1	1	
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*							3			1				2	3		1	2		2
Ranunculus sceleratus	1		1	1						1				1					1	
Rumex hydrolapathum	1				1			1											1	
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*		1	1	2		3	1		1		1		1	1		2		1		
Sparganium erectum	1				1			1		1							1		1	
Typha angustifolia																				
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex acuta																				
Carex divisa						1					1	1			1	1	1			
Carex otrubae	1		1	1		1			1		1		1	1	1	1	1		1	
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum	1																			
Eupatorium cannabinum																				
Galium palustre	1																		1	
Glaux maritima																				
Juncus effusus																				
Juncus inflexus		1	1		1				1	1	1	1					1	1	1	1
Juncus gerardii			1																	
Juncus maritima																				
Lycopus europaeus																				1
Mentha aquatica																				
Myosotis cespitosa	1																1		1	
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata					1														1	1
Solanum dulcamara					1															1
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*					2															
Ditch choked																				
Ditch dry (N = near dry)												1								
Width (nearest metre)	4	3	2	4	3	3	3	2	3	6	3	2	4	3	4	3	4	4	4	3
Land use north / east	P	H	H	H	P	H	H	U	H	H	H	P	H	H	H	H	H	H	P	P
Land use south / west	F	H	H	H	P	H	H	U	H	H	H	P	H	H	H	H	H	H	P	U
Conductivity (µScm x 100)	9	38	49	10	19	51	35		15	7	17		35	33	32	31	7	18	9	

Ditch Number	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Number of aquatic species	7	3	2	3	3	4	1	2	3	2	3	0	2	2	2	3	5	2	6	5
Number of emergent species	5	2	3	4	2	2	3	2	4	5	3	1	3	4	2	2	3	6	5	2
Number of bank species	4	1	3	1	3	2	0	0	2	1	3	2	1	1	2	2	4	1	5	4
Total number of species	16	6	8	8	8	8	4	4	9	8	9	3	6	7	6	7	12	9	16	11

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Azolla filiculoides															1					
Callitriche obtusangula					1	1	1		1						1	1				
Callitriche stagnalis/spp																1				
Ceratophyllum demersum						1							1							1
Ceratophyllum submersum		1						1		1	1	1	1				1			1
Chara sp																1				
Elodea nuttallii					1							1				1	1	1		
Enteromorpha sp†					1	D			1						1			1		
Filamentous algae†			1							1						1				
Hydrocharis morsus-ranae		1	1	1		1														
Lemna gibba				1		1		1			1			1			1			
Lemna miniscula	D			1																
Lemna minor	1	1		D		1	1	1	1	1	1	1	1	1			1			1
Lemna trisulca	D	1	1			1	1	1	1		1		1	1	1		1			D
Myriophyllum aquaticum																				
Myriophyllum spicatum					1															
Nymphaea alba																				
Potamogeton crispus																1				
Potamogeton pectinatus		1											1							
Potamogeton pusillus/berchtoldii						1														
Ranunculus baudotii															1					
Ranunculus circinatus																1				
Ranunculus trichophyllus																				
Ranunculus seedling																1				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica															1					
Apium nodiflorum																				
Berula erecta		1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1		1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris					1	1		1	1	1	1			1	1		1	1		
Equisetum fluviatile																				
Glyceria fluitans				1		1														
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg						1				1										
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*		1	1	2			3								1			1		2
Ranunculus sceleratus				1	1				1	1					1			1		
Rumex hydrolapathum				1		1						1								
Sagittaria sagittifolia																1				
Scirpus lacustris									1											
Scirpus maritimus*							1		1	1	1		1					1		
Sparganium erectum				1	1	1				1		1		1		1				
Typha angustifolia												1			1					
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata													1							
Aster tripolium																				
Carex acuta																				
Carex divisa		1		1					1	1	1		1				1			1
Carex otrubae		1		1		1		1	1	1	1		1	1			1			
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum				1											1					
Eupatorium cannabinum																				
Galium palustre	1					1							1							
Glaux maritima																				
Juncus effusus																				
Juncus inflexus	1	1	1	1	1	1			1	1			1	1	1	1	1			1
Juncus gerardii									1											
Juncus maritima																				
Lycopus europaeus					1											1				
Mentha aquatica																				
Myosotis cespitosa			1			1										1				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi													1							
Scutellaria galericulata	1																			
Solanum dulcamara	1																			
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*	2															2			2	
Ditch choked																				
Ditch dry (N = near dry)																			1	
Width (nearest metre)	2	3	3	3	6	4	2	3	4	3	4	4	3	4	4	3	4	6	2	3
Land use north / east	P	H	H	P	H	P	H	H	H	H	H	P	P	H	H	P	H	H	P	P
Land use south / west	P	H	H	U	H	P	H	H	H	H	H	P	P	H	H	U	H	H	F	P
Conductivity (µScm x 100)	23	30	32	9	7	9	14	27	8	20	16		27	8	13	5	20	7		19

Ditch Number	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Number of aquatic species	3	5	2	4	3	7	3	4	3	2	4	3	5	3	4	7	5	1	0	4
Number of emergent species	0	2	2	6	4	6	3	2	5	6	3	3	2	3	6	3	2	5	0	2
Number of bank species	4	3	2	4	2	4	0	1	4	3	2	0	6	2	2	3	3	0	0	2
Total number of species	7	10	6	14	9	17	6	7	12	11	9	6	13	8	12	13	10	6	0	8

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
Azolla filiculoides							1				1									
Callitriche obtusangula							1													
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum		1	1				1								1	1				
Chara sp																				
Elodea nuttallii			1													1				
Enteromorpha sp†											1									
Filamentous algae†																				
Hydrocharis morsus-ranae																				
Lemna gibba								1					1		1	1				1
Lemna miniscula					D							D								
Lemna minor		1	1			1	1	D				1	D	1	1	1				1
Lemna trisulca		D	1			1	1	D					D	1	1	1				1
Myriophyllum aquaticum																				
Myriophyllum spicatum	1										1									
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus											1									
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus circinatus																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Riccia fluitans						D						D								
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta			1				1						1		1					1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris								1					1		1					
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*									3	3							3		3	
Ranunculus sceleratus							1								1	1				
Rumex hydrolapathum			1		1									1						
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	2	1					1				2				1	1				
Sparganium erectum			D		1	1						D		D						
Typha angustifolia							1													
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†																		1		
Atriplex hastata								1												
Aster tripolium																				
Carex acuta																				
Carex divisa		1					1	1					1		1					1
Carex otrubae		1						1		1			1		1					1
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum					1															
Eupatorium cannabinum																				
Galium palustre												1								
Glaux maritima																				
Juncus effusus																				
Juncus inflexus		1			1			1				1	1		1					1
Juncus gerardii							1									1				
Juncus maritima																				
Lycopus europaeus												1		1						
Mentha aquatica																				
Myosotis cespitosa												1								1
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara												1		1						
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*					1							1					1			
Ditch choked									1					1			1		1	
Ditch dry (N = near dry)				1														1		
Width (nearest metre)	4	3	2	2	2	4	3	3	2	2	4	2	3	2	4	5	2	1	2	3
Land use north / east	F	P	P	P	P	P	H	P	U	F	P	P	P	P	H	H	U	P	U	H
Land use south / west	U	P	P	P	P	P	H	P	P	F	U	P	P	P	H	H	P	P	U	H
Conductivity (µScm x 100)	59	27	6		6		11	21		75	46	6	16		11	11				12

Ditch Number	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
Number of aquatic species	1	3	4	0	1	3	5	3	0	0	3	3	3	2	4	5	0	0	0	3
Number of emergent species	1	1	3	0	2	1	4	1	1	1	1	1	2	2	4	2	1	0	1	1
Number of bank species	0	3	0	0	2	0	2	4	0	1	0	5	3	2	3	1	0	0	0	4
Total number of species	2	7	7	0	5	4	11	8	1	2	4	9	8	6	11	8	1	0	1	8

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
Azolla filiculoides																				
Callitriche obtusangula	1	1	1										1					1	1	
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum		1					1						1				1	1	1	1
Chara sp																				
Elodea nuttallii			1																	
Enteromorpha sp†			1																	
Filamentous algae†																		1	1	
Hydrocharis morsus-ranae																				
Lemna gibba		D			1			1				D							1	1
Lemna miniscula																				
Lemna minor	1	1	1		1			1		1		1			1				1	D
Lemna trisulca	D	1	1		1		1	1		D		1	1		1		1	1	1	1
Myriophyllum aquaticum																				
Myriophyllum spicatum				1													1	1		
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus				1			1												1	
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii				1													1			
Ranunculus circinatus																				
Ranunculus trichophyllus														1			1			
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica															1					
Apium nodiflorum																				
Berula erecta		1	1																	1
Butomus umbellatus								1												
Carex riparia																				
Eleocharis palustris		1	1		1									1				1	1	
Equisetum fluviatile																				
Glyceria fluitans														1						
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*				2		3					3	1			3	3				
Ranunculus sceleratus	1				1														1	
Rumex hydrolapathum															1					
Sagittaria sagittifolia																				
Scirpus lacustris							1													
Scirpus maritimus*	1	1	1				2						2	2			2	2	2	
Sparganium erectum			1												1					1
Typha angustifolia					1															
Typha latifolia																				
Veronica catenata																	1			
Grass dom (Agro/Alop)†																				
Atriplex hastata		1																1		
Aster tripolium																				
Carex acuta																				
Carex divisa	1	1	1		1		1	1		1		1					1			1
Carex otrubae	1	1	1		1			1		1		1	1	1			1	1		
Chenopodium chenopodioides				1																
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre										1										1
Glaux maritima																				
Juncus effusus			1																	
Juncus inflexus	1	1	1		1			1		1		1								1
Juncus gerardii							1							1				1		
Juncus maritima																				
Lycopus europaeus															1					
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi	1											1								1
Scutellaria galericulata																				
Solanum dulcamara																				
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*	2									1										
Ditch choked						1					1					1				
Ditch dry (N = near dry)									1					1			N			
Width (nearest metre)	3	3	5	5	3	2	3	3	2	3	2	3	2	2	2	2	4	2	2	3
Land use north / east	P	P	H	P	H	U	P	H	U	P	U	H	P	P	U	U		P	P	H
Land use south / west	P	P	U	P	H	P	P	H	U	P	U	P	F	P	A	U	P	P	P	H
Conductivity (µScm x 100)	24	16	12	64	11		26	12		24		13	18				27	24	29	18

Ditch Number	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
Number of aquatic species	3	5	4	3	3	0	3	3	0	2	0	3	3	1	2	0	5	4	6	4
Number of emergent species	2	3	4	1	3	1	2	1	0	0	1	1	1	3	4	1	2	2	3	2
Number of bank species	4	4	4	1	3	0	2	3	0	4	0	4	1	2	1	0	2	3	0	4
Total number of species	9	12	12	5	9	1	7	7	0	6	1	8	5	6	7	1	9	9	9	10

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
Azolla filiculoides					1										1					
Callitriche obtusangula								1			1								1	1
Callitriche stagnalis/spp																				
Ceratophyllum demersum										1										
Ceratophyllum submersum	1					1			1	1	1			1					1	
Chara sp																				
Elodea nuttallii	1		1															1		
Enteromorpha sp†																				
Filamentous algae†	1										1		1						1	
Hydrocharis morsus-ranae																				
Lemna gibba	1		1	D							1			1		1			1	1
Lemna miniscula																				
Lemna minor	1	1	1	1				1	1	1	1			1		1		D	1	1
Lemna trisulca	1		1	1		1		D	1	1	1	1		D		1		1	1	D
Myriophyllum aquaticum																				
Myriophyllum spicatum					1															
Nymphaea alba																				
Potamogeton crispus																		1		
Potamogeton pectinatus						1					1									
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii				1																
Ranunculus circinatus																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica				1																
Apium nodiflorum										1										
Berula erecta	1		1	1						1								1		
Butomus umbellatus				1																
Carex riparia																		1		
Eleocharis palustris			1			1		1	1					1	1				1	
Equisetum fluviatile																				
Glyceria fluitans				1				1						1						
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg			1																	
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*		3			3		3						2					3		
Ranunculus sceleratus			1					1						1				1	1	
Rumex hydrolapathum		1								1								1		
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*			1		1	2		1	1		2	1		2	3	1	1		2	1
Sparganium erectum	1		1	1						1								1		
Typha angustifolia	1															1				
Typha latifolia		1		1																
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata								1			1						1		1	
Aster tripolium																				
Carex acuta																				
Carex divisa				1		1			1		1									1
Carex otrubae			1	1				1	1	1		1	1					1	1	1
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus				1								1								
Juncus inflexus	1		1	1				1		1		1			1	1		1		1
Juncus gerardii								1												
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa				1						1										
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara						1							1			1				1
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*		1								1			1			2		1		1
Ditch choked		1					1						1							
Ditch dry (N = near dry)									N				1				1			
Width (nearest metre)	3	2	5	3	6	2	1	2	4	3	2	3	1	2	2	20	1	4	2	2
Land use north / east	H	U	H	P	U	P	U	P	P	H	P	U	U	P	U	U	U	H	P	P
Land use south / west	H	U	U	P	U	F	U	P	P	H	P	U	U	P	U	H	U	H	P	F
Conductivity (µScm x 100)	10		12	14	44	18	65	18	25	14	26	36		29	32	20		12	28	15

Ditch Number	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
Number of aquatic species	5	1	4	4	2	3	0	3	3	4	6	1	0	4	1	3	0	4	5	4
Number of emergent species	3	3	6	6	2	2	1	4	2	4	1	1	1	4	2	2	1	6	3	1
Number of bank species	1	0	2	5	0	2	0	4	2	3	2	3	2	0	1	2	1	2	2	4
Total number of species	9	4	12	15	4	7	1	11	7	11	9	5	3	8	4	7	2	12	10	9

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
Azolla filiculoides																				
Callitriche obtusangula				1		1	1	1		1	1								1	
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1	1	1				1	1	1						1					
Chara sp																				
Elodea nuttallii		1	1																	
Enteromorpha sp†		1	1			1													1	
Filamentous algae†			1	D	1				1	1	1			1	1					
Hydrocharis morsus-ranae																				
Lemna gibba							1								1	D				
Lemna miniscula																				
Lemna minor		1	1	1		1	1	1	1	1	1				1	1		1	1	1
Lemna trisulca	1		1	1		1	1	1	1	D	1				1	1	1		1	
Myriophyllum aquaticum																				
Myriophyllum spicatum			1									D								
Nymphaea alba																				
Potamogeton crispus		1	1			1														
Potamogeton pectinatus					1			1	1					1	1					1
Potamogeton pusillus/berchtoldii																			1	
Ranunculus baudotii									1											
Ranunculus circinatus																				
Ranunculus trichophyllus				1			1	1							1					
Ranunculus seedling																		1		
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																			1	
Apium nodiflorum																				
Berula erecta		1				1	1	1			1	1				1			1	
Butomus umbellatus																			1	
Carex riparia		1				1												1		
Eleocharis palustris				1			1	1	1	1	1				1					
Equisetum fluviatile																				
Glyceria fluitans				1														1		
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus		1																1		
Juncus articulatus																				
Nasturtium officinale agg	1	1			1	1														
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*						2					2						3		2	2
Ranunculus sceleratus				1		1		1	1								1		1	
Rumex hydrolapathum						1										1			1	
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	3	1	1	2	3		1	2	2	2	1		3	3	2	1			1	1
Sparganium erectum		1	1			1										1			1	
Typha angustifolia	1															1				
Typha latifolia											1	D								
Veronica catenata											1									
Grass dom (Agro/Alop)†																				
Atriplex hastata									1			1								1
Aster tripolium																				
Carex acuta																				
Carex divisa			1				1				1	1					1		1	
Carex otrubae		1	1	1	1		1		1	1	1				1	1		1	1	
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus							1	1	1			1						1		
Juncus inflexus	1	1	1			1	1		1	1	1	1			1	1		1	1	
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus											1								1	
Mentha aquatica																				
Myosotis cespitosa																1				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara	1									1			1	1		1				
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*					1	1					1					1		3		
Ditch choked											1	1					1			
Ditch dry (N = near dry)																		1		N
Width (nearest metre)	30	9	10	2	2	4	2	2	2	2	2	2	3	3	2	3	3	2	3	3
Land use north / east	U	H	H	P	U	H	P	P	P	P	U	P	U	U	P	P	P	H	U	U
Land use south / west	U	P	U	P	U	P	P	P	P	P	P	F	U	U	P	H	U	F	U	U
Conductivity (µScm x 100)	23	9	10	32	49	11	18	18	17	23	9	18	44	43	20	8	100		14	89

Ditch Number	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
Number of aquatic species	2	4	6	4	1	4	6	6	5	3	3	1	0	1	6	3	1	2	4	2
Number of emergent species	3	6	2	4	2	7	3	4	3	2	6	2	1	1	2	5	2	3	8	2
Number of bank species	2	2	3	1	1	1	4	1	4	3	4	4	1	1	2	4	1	3	4	1
Total number of species	7	12	11	9	4	12	13	11	12	8	13	7	2	3	10	12	4	8	16	5

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280
Azolla filiculoides															1					
Callitriche obtusangula		1	1	1	1		1		1		1			1	1		1	1	1	1
Callitriche stagnalis/spp						1														
Ceratophyllum demersum						1														
Ceratophyllum submersum	1	1	1		1						1				1			1		
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†						1														1
Filamentous algae†	1	1	1			1									1	1		1		1
Hydrocharis morsus-ranae																				
Lemna gibba									1		1			1						
Lemna miniscula																				
Lemna minor			1	1	1	1			1		1		1	D					1	
Lemna trisulca			1	D				1	D		1	1	D	1	1	1			1	
Myriophyllum aquaticum																				
Myriophyllum spicatum							1													
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus	1	1	1																	
Potamogeton pusillus/berchtoldii					1		1													
Ranunculus baudotii			1																1	
Ranunculus circinatus																				
Ranunculus trichophyllus	1		1																	
Ranunculus seedling																				
Riccia fluitans																				D
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta				1									1							
Butomus umbellatus																				
Carex riparia						1	1													
Eleocharis palustris	1		1						1		1	1							1	
Equisetum fluviatile																				
Glyceria fluitans									1										1	
Glyceria maxima													1							
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg	1															1				1
Oenanthe aquatica	1																			
Oenanthe fistulosa													1		1					
Phragmites australis*						2	3			3							2			1
Ranunculus sceleratus									1										1	
Rumex hydrolapathum				1									1	1						
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	2	3	2					3	2		2	3	2		3	3		3	2	
Sparganium erectum				1	D	1	1													1
Typha angustifolia																				
Typha latifolia													1							
Veronica catenata	1																			
Grass dom (Agro/Alop)†																				
Atriplex hastata	1																			
Aster tripolium																				
Carex acuta							1										1			
Carex divisa			1	1					1				1	1						
Carex otrubae		1	1	1				1	1		1	1		1				1	1	
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum										1										
Eupatorium cannabinum																				
Galium palustre				1										1						
Glaux maritima																				
Juncus effusus																				
Juncus inflexus	1	1	1	1			1		1			1	1	1			1	1		1
Juncus gerardii																1				
Juncus maritima																				
Lycopus europaeus																				1
Mentha aquatica					1												1			
Myosotis cespitosa				1		1								1						
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara		1							1						1	1		1		
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*																				1
Ditch choked										1										
Ditch dry (N = near dry)										1									N	
Width (nearest metre)	4	3	2	2	2	3	2	3	2	2	2	2	2	3	3	3	2	3	2	2
Land use north / east	P	U	P	P	P	P	U	U	P	P	P	U	P	P	U	U	U	U	P	A
Land use south / west	P	U	P	P	P	P	P	U	P	A	F	U	H	P	U	U	P	U	P	P
Conductivity (µScm x 100)	22	41	16	10				40	17		24	25	55	7	16	20		40	30	

Ditch Number	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280
Number of aquatic species	3	3	7	3	4	3	3	1	4	0	5	1	2	4	4	1	1	2	4	2
Number of emergent species	5	1	2	3	1	3	3	1	4	1	2	2	6	1	2	2	1	1	4	3
Number of bank species	2	3	3	5	1	1	2	1	4	1	1	2	2	5	1	2	3	3	1	2
Total number of species	10	7	12	11	6	7	8	3	12	2	8	5	10	10	7	5	5	6	9	7

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300
Azolla filiculoides									1					1						1
Callitriche obtusangula				1							1	1	1			1	1			
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum				1							1		1		1			1		1
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																1				
Filamentous algae†											1				1					
Hydrocharis morsus-ranae																				
Lemna gibba					1		1				1		1			1				
Lemna miniscula																				
Lemna minor		1		1	1	1	1				1		1		1	1	1	1	1	
Lemna trisulca				1	1		D				1		1		1	1	1	1		1
Myriophyllum aquaticum																				
Myriophyllum spicatum													1							
Nymphaea alba																				
Potamogeton crispus																1				
Potamogeton pectinatus				1	1						1		1		1					
Potamogeton pusillus/berchtoldii		1														1				
Ranunculus baudotii																				
Ranunculus circinatus																				
Ranunculus trichophyllus				1	1						1		1							
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica									1			1					1			
Apium nodiflorum																				
Berula erecta				1		1	1			1					1	1	1			
Butomus umbellatus																	1			
Carex riparia																				
Eleocharis palustris				1			1		1		1	1	1		1			1		
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima							1													
Hippuris vulgaris												1								
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg										1							1			
Oenanthe aquatica																				
Oenanthe fistulosa																				1
Phragmites australis*		1	3														3			
Ranunculus sceleratus					1		1			1		1								
Rumex hydrolapathum																1	1			
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	3			2	3		1	1	3	3	2	2	2	3	2			2	3	3
Sparganium erectum		1					1									1	1		1	
Typha angustifolia						1				1				1						
Typha latifolia									1			1								
Veronica catenata												1	1							
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium								1												
Carex acuta																				
Carex divisa						1					1						1	1		
Carex otrubae	1			1		1	1				1		1	1	1	1	1	1		1
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum			1			1														
Eupatorium cannabinum																				
Galium palustre						1										1	1			
Glaux maritima																				
Juncus effusus														1						
Juncus inflexus		1			1	1	1			1	1		1	1	1	1	1	1	1	
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus						1										1				
Mentha aquatica																				
Myosotis cespitosa																1				
Oenanthe lachenalii																				
Polypogon monspeliensis								1												
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara	1								1	1				1	1			1	1	1
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*						1										1				
Ditch choked	1		1														1			
Ditch dry (N = near dry)	1		1			N		1										N		
Width (nearest metre)	1	2	2	2	2	2	3	1	3		2	5	2	3	4	3	2	2	3	3
Land use north / east	U	P	A	P	U	P	P	U	U	U	P	U	P	U	U	P	H	P	U	U
Land use south / west	U	U	P	P	U	F	H	U	U	U	P	U	P	U	U	P	P	F	P	P
Conductivity (µScm x 100)				20	42	9	10		27	16	20	23	21	21	31	8	45	72	29	31

Ditch Number	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300
Number of aquatic species	0	2	0	6	5	1	3	0	1	0	7	1	8	1	4	6	3	3	1	3
Number of emergent species	1	2	1	3	2	2	6	1	4	5	2	7	3	2	3	3	7	2	2	2
Number of bank species	2	1	1	1	1	6	2	2	1	2	3	0	2	4	3	5	4	4	2	2
Total number of species	3	5	2	10	8	9	11	3	6	7	12	8	13	7	10	14	14	9	5	7

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320
Azolla filiculoides				1											1					
Callitriche obtusangula		1		1	1	1	1			1	1	1					1	1		
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum					1					1		1					1			
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†		D																		
Filamentous algae†	1							1		1		1				1	1			
Hydrocharis morsus-ranae																				
Lemna gibba				1				1		1	1	1								
Lemna miniscula																				
Lemna minor	1	1	D	1	1	1	1	1	D	1	1	1				1	1		1	1
Lemna trisulca	1	1	1	1	D	D	D	1	D	1	1	1		1			1	1		
Myriophyllum aquaticum																				
Myriophyllum spicatum												1			1					
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus					1					1		1								
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii											1	1				1			1	
Ranunculus circinatus																				
Ranunculus trichophyllus										1										
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica											1	1								
Apium nodiflorum					1															
Berula erecta		1	1	1	1		1		1	1	1	1				1	1	1	1	1
Butomus umbellatus			1								1									
Carex riparia																				
Eleocharis palustris	1		1	1					1	1		1						1		
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				D
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg							1		1		1	1					1			
Oenanthe aquatica																				
Oenanthe fistulosa								1	1			1					1	1		
Phragmites australis*		1	3										3	3	3	1				
Ranunculus sceleratus					1		1		1	1							1			
Rumex hydrolapathum		1																		
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	3			1	2	2		3	2	2		2	1	3	3		2	3		
Sparganium erectum		1					1													
Typha angustifolia																				
Typha latifolia	1						1													
Veronica catenata	1																			
Grass dom (Agro/Alop)†																				
Atriplex hastata					1	1														
Aster tripolium																				
Carex acuta																				
Carex divisa		1		1	1	1			1			1				1				
Carex otrubae		1	1	1	1	1	1		1	1	1			1		1		1	1	
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre			1					1												
Glaux maritima																				
Juncus effusus																1				
Juncus inflexus	1	1	1	1	1	1	1				1					1		1	1	1
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa			1				1									1				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara	1				1	1			1									1		
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*				1	2	1	2		2							2			3	1
Ditch choked			1										1							1
Ditch dry (N = near dry)													1							N
Width (nearest metre)	30	4	2	3	2	1	2	3	1	3	2	3	2	3	5	2	3	3	2	4
Land use north / east	U	P	P	P	U	U	P	P	P	F	P	P	U	U	U	P	P	P	P	P
Land use south / west	U	P	P	F	P	P	F	H	U	P	P	P	U	P	U	P	H	U	P	P
Conductivity (µScm x 100)	21	9	8	27	24	20	13	27	8	28	11	22		45	40	19	33	34	12	28

Ditch Number	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320
Number of aquatic species	2	3	2	5	5	3	3	3	2	7	5	8	0	1	2	2	4	2	2	1
Number of emergent species	4	4	4	3	4	1	5	2	6	4	4	6	2	2	2	2	5	4	1	2
Number of bank species	2	3	4	3	5	5	3	1	3	1	2	1	0	1	0	5	0	3	2	1
Total number of species	8	10	10	11	14	9	11	6	11	12	11	15	2	4	4	9	9	9	5	4

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340
Azolla filiculoides								1												
Callitriche obtusangula				1		1		1		1	1				1					1
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum						1		1			1									
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†			1	1		1					1	1				1		1		1
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor			1	1	1	1		1		1					1					
Lemna trisulca		1	1	1	D	1		1	1	1		1		1					1	1
Myriophyllum aquaticum																				
Myriophyllum spicatum								1												
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus						1		1			1	1				1				
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii				1		1					1							1		
Ranunculus circinatus																				
Ranunculus trichophyllus				1	1	1					1									1
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica						1				1										
Apium nodiflorum																				
Berula erecta					1	1			1	1	1				1	1	1			
Butomus umbellatus																				
Carex riparia										1										
Eleocharis palustris			1		1	1		1			1					1		1		1
Equisetum fluviatile																				
Glyceria fluitans	D					1														
Glyceria maxima										1							D			
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg					1										1	1	1			
Oenanthe aquatica																				
Oenanthe fistulosa	1	1		1		1			1		1					1				1
Phragmites australis*		3					3		3				3	3					3	
Ranunculus sceleratus					1	1									1		1			1
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*		3	3	2	2	2	1	2	3		2	3		3		3		3		3
Sparganium erectum																				
Typha angustifolia							1							1						
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex acuta																				
Carex divisa	1				1	1		1			1									
Carex otrubae		1			1	1		1	1	1	1			1		1		1		1
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus	1	1		1	1		1			1					1		1			
Juncus gerardii																		1		
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara					1		1		1					1		1			1	
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*	1				1					1					2					
Ditch choked							1						1				1	1	1	1
Ditch dry (N = near dry)	1												1				N		N	
Width (nearest metre)	2	10	3	2	1	2	2	3	3	2	2	4	2	3	4	3	4	1	1	1
Land use north / east	P	U	U	P	P	P	U	F	U	P	P	U	U	P	P	U	P	U	U	U
Land use south / west	P	P	U	H	F	P	U	P	U	P	P	U	U	U	P	U	P	U	H	U
Conductivity (μScm x 100)		39	31	35	26	24	28	28	36	14	24	44		35	11	33	13	60	42	31

Ditch Number	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340
Number of aquatic species	0	1	2	5	3	7	0	7	1	3	5	2	0	1	2	1	0	1	1	3
Number of emergent species	2	3	2	2	5	7	3	2	4	4	4	1	1	3	3	5	4	2	1	4
Number of bank species	2	2	0	1	4	2	2	2	2	2	2	0	0	2	1	2	1	2	1	1
Total number of species	4	6	4	8	12	16	5	11	7	9	11	3	1	6	6	8	5	5	3	8

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360
Azolla filiculoides	1																			
Callitriche obtusangula		1		1	1		1						1				1			
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1	1					1				1	1		1	1	1	1			1
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†	1				1	1	1		1		1	1		1	1					1
Hydrocharis morsus-ranae																				
Lemna gibba					1					1										
Lemna miniscula																				
Lemna minor		1		1	1		1			1										
Lemna trisulca	1	1		1	1		1		1	1					1	1	1	1		1
Myriophyllum aquaticum																				
Myriophyllum spicatum																				1
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus	1				1		1		1		1	1		1	1		1			
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii		1			1		1						1		1		1			
Ranunculus circinatus																				
Ranunculus trichophyllus	1				1	1	1		1	1	1	1		1		1		1		
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica							1													1
Apium nodiflorum																				
Berula erecta			1		1		1		1								1			1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris					1	1	1									1	1	1		1
Equisetum fluviatile																				
Glyceria fluitans							1													
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg		1	1	1		1	1			1					1					1
Oenanthe aquatica																				
Oenanthe fistulosa		1								1			1							
Phragmites australis*				2																
Ranunculus sceleratus			1						1	1					1	1				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	3	2			2	3	2		3	3	3	3		3	3	3	1	3		1
Sparganium erectum																				
Typha angustifolia																				1
Typha latifolia																				
Veronica catenata		1								1										
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex acuta																				
Carex divisa	1				1	1	1		1		1	1			1	1				
Carex otrubae		1				1	1			1										
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus													1							
Juncus inflexus				1						1			1		1					1
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa				1																
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara									1	1		1			1	1		1		
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*			3	3				3					2						3	
Ditch choked			1																	
Ditch dry (N = near dry)			1			1		1					1						1	
Width (nearest metre)	4	3	2	2	3	2	2	2	2	1	3	3	1	3	4	2	3	3	2	3
Land use north / east	U	U	H	H	F	U	P	P	U	U	U	U	P	U	U	U	H	U	A	P
Land use south / west	U	P	P	P	P	U	P	H	U	U	U	U	F	U	U	U	H	U	H	U
Conductivity (µScm x 100)	32	39		12	29		26		35	13	44	43		47	44	3	39	40		20

Ditch Number	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360
Number of aquatic species	5	5	0	3	7	1	7	0	3	4	3	3	2	3	4	3	5	2	0	3
Number of emergent species	1	4	3	2	3	3	6	0	3	5	1	1	1	1	3	3	3	2	0	6
Number of bank species	1	1	0	2	1	2	2	0	2	3	1	2	2	0	3	2	0	1	0	1
Total number of species	7	10	3	7	11	6	15	0	8	12	5	6	5	4	10	8	8	5	0	10

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380
Azolla filiculoides								1	1											1
Callitriche obtusangula	1			1			1													
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1					1	1		1	1				1		1	1		1	
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†		1	1			1	1	1				1	1		1		1		1	
Hydrocharis morsus-ranae																				
Lemna gibba							1							1					1	
Lemna miniscula																				
Lemna minor						1	1							1			1	1	1	
Lemna trisulca	1					1	1							1	1		1	1	1	
Myriophyllum aquaticum																				
Myriophyllum spicatum						1														
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus		1					1		1							1			1	
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii	1											1	1			1	1			
Ranunculus circinatus																				
Ranunculus trichophyllus	1	1	1				1									1				
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta	1			1			1		1							1	1		1	
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1						1							1		1	1			
Equisetum fluviatile																				
Glyceria fluitans					1															
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg				1			1							1				1		
Oenanthe aquatica																				
Oenanthe fistulosa				1				1							1					
Phragmites australis*				3					3										1	
Ranunculus sceleratus	1							1								1				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	1	3	3			1	3	3	3	3		3	3		3	1		3	2	3
Sparganium erectum																				
Typha angustifolia						1					D									1
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex acuta																				
Carex divisa	1	1	1			1			1											1
Carex otrubae			1			1								1			1	1		
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum				1		1														
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus				1		1								1			1		1	
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa				1																
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara		1		1				1	1		1									
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*				3	3															
Ditch choked				1							1									
Ditch dry (N = near dry)			1	1	1															
Width (nearest metre)	3	3	2	5	2	3	3	3	4	15	1	15	15	3	15	3	3	4	3	3
Land use north / east	H	U	U	H	H	P	H	H	U	U	U	U	U	P	U	H	P	H	H	U
Land use south / west	H	U	U	P	H	U	P	U	U	U	U	U	U	P	U	H	P	U	H	H
Conductivity (μScm x 100)	40	42				17	42	36	43	79	35	60	55	15	53	39	23	41	21	36

Ditch Number	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380
Number of aquatic species	5	2	1	1	0	4	7	1	3	1	0	1	1	4	1	4	4	2	5	1
Number of emergent species	4	1	1	4	1	2	4	3	3	1	1	1	1	2	2	4	2	2	3	2
Number of bank species	1	2	2	4	0	4	0	1	2	0	1	0	0	2	0	0	2	1	1	1
Total number of species	10	5	4	9	1	10	11	5	8	2	2	2	2	8	3	8	8	5	9	4

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400
Azolla filiculoides				1						1	1		1			1				
Callitriche obtusangula			1		1															
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1	1	1				1	1	1	1	1		1		1					
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†	1	1	1			1		1	1	1	1	1	1	1		1		1	1	1
Hydrocharis morsus-ranae																				
Lemna gibba		1	1					1	1	1	1		1		1					
Lemna miniscula																				
Lemna minor	1	1	1			1		1	1	1	1		1		1			1		
Lemna trisulca	1	1	1			1		1	1	1	1		1		1			1		
Myriophyllum aquaticum																				
Myriophyllum spicatum		1		1				1												
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus		1			1		1		1	1					1	1	1			
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii		1				1	1							1	1	1	1			
Ranunculus circinatus																				
Ranunculus trichophyllus					1			1				1						1		
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica		1																		
Apium nodiflorum																				
Berula erecta			1			1		1	1	1	1		1		1					
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris			1		1	1		1	1	1	1	1		1	1	1		1		
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg			1			1		1	1	1	1				1					
Oenanthe aquatica																				
Oenanthe fistulosa			1		1							1		1		1	1	1		1
Phragmites australis*	1			1															3	
Ranunculus sceleratus			1							1										
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	3	1		3	3	1	3	2	1	2	3	2	3			1		1		3
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex acuta																				
Carex divisa	1				1	1		1		1					1	1		1		
Carex otrubae			1			1	1		1				1							
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus		1													1	1	1			
Juncus gerardii															1					
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara		1																		
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked																			1	
Ditch dry (N = near dry)																				
Width (nearest metre)	4	3	3	5	3	3	3	3	3	3	3	2	3	2	3	2	2	2	1	2
Land use north / east	U	P	P	U	H	P	U	H	P	H	P	H	U	H	P	H	H	P	U	H
Land use south / west	H	U	H	H	H	P	H	P	P	P	P	H	P	H	P	H	H	P	U	H
Conductivity (µScm x 100)	53	15	42	36	46	25	51	26	24	26	43	72	47	57	20	55	52	72	64	74

Ditch Number	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400
Number of aquatic species	3	7	5	2	3	3	3	6	5	6	5	1	5	1	6	3	2	3	0	0
Number of emergent species	2	2	5	2	3	4	1	4	4	5	4	3	2	2	3	3	1	3	1	2
Number of bank species	1	2	1	0	1	2	1	1	1	1	0	0	1	0	3	2	1	1	0	0
Total number of species	6	11	11	4	7	9	5	11	10	12	9	4	8	3	12	8	4	7	1	2

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420
Azolla filiculoides						1														
Callitriche obtusangula	1													1						
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1	1			1		1	1	1					1		1	1	1	1	
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																	1			
Filamentous algae†	1		1	1			1	1	1	1	1	1	1	1	1		1	1		
Hydrocharis morsus-ranae																				
Lemna gibba	1	1	1				1											1		1
Lemna miniscula																				
Lemna minor	1	1	1				1	1	1					1			1	1		1
Lemna trisulca	1	1	1				1	1						1		1		1		1
Myriophyllum aquaticum																				
Myriophyllum spicatum						1														
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus	1		1		1		1	1		1		1	1	1		1			1	
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii	1		1	1	1			1		1		1	1		1			1	1	
Ranunculus circinatus																				
Ranunculus trichophyllus			1	1					1		1				1					
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta			1				1	1	1					1		1		1		1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1		1		1		1	1		1		1	1	1		1	1	1	1	
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg	1							1		1				1						1
Oenanthe aquatica																				
Oenanthe fistulosa				1	1				1	1	1	1	1		1				1	
Phragmites australis*		1				1														1
Ranunculus sceleratus																				1
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*		3	2	2	2	3	3	1	3	1	1	1	2	1	3	2	1	2	1	3
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				1
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex acuta																				
Carex divisa	1			1	1		1			1	1	1	1					1	1	
Carex otrubae							1				1							1		
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum		1															1			
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus				1						1								1		
Juncus gerardii											1			1						
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara							1													1
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*		3															3			
Ditch choked																				
Ditch dry (N = near dry)																				
Width (nearest metre)	3	2	2	3	4	5	3	3	2	3	2	3	3	3	3	3	3	3	4	3
Land use north / east	P	P	P	H	H	U	H	P	H	H	H	H	H	P	P	P	H	P	H	U
Land use south / west	P	U	P	H	H	H	U	P	P	H	P	H	P	P	P	P	H	P	H	H
Conductivity (µScm x 100)	22	23	55	64	44	39	21	47	66	49	68	60	68	34	78	46	12	20	47	20

Ditch Number	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420
Number of aquatic species	7	4	6	2	3	2	5	5	3	2	1	2	2	5	2	3	2	5	3	3
Number of emergent species	2	2	3	2	3	2	3	4	3	4	2	3	3	4	2	3	2	3	3	6
Number of bank species	1	1	0	2	1	0	3	0	0	2	3	1	1	1	0	0	1	3	1	1
Total number of species	10	7	9	6	7	4	11	9	6	8	6	6	6	10	4	6	5	11	7	10

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440
Azolla filiculoides							1		1	1					1					
Callitriche obtusangula	1				1								1			1				1
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1	1			1	1	1	1			1	1	1	1	1	1	1	1	1	1
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†		1	1	1		1	1				1	1	1	1		1	1		1	1
Hydrocharis morsus-ranae																				
Lemna gibba				1				1				1	1	1						1
Lemna miniscula																				
Lemna minor	1	1		1	1	1		1			1	1	1	1		1			1	1
Lemna trisulca		1		1	1						1	1	1	1		1	1		1	1
Myriophyllum aquaticum																				
Myriophyllum spicatum																				
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus	1	1	1		1	1	1					1	1	1		1			1	
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii			1				1		1	1					1	1	1	1		
Ranunculus circinatus																				
Ranunculus trichophyllus											1									1
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica												1								
Apium nodiflorum																				
Berula erecta		1		1	1		1	1			1	1	1			1		1		1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1	1	1	1	1	1		1	1	1	1		1	1	1	1		1		1
Equisetum fluviatile																				
Glyceria fluitans																				1
Glyceria maxima																				
Hippuris vulgaris											1							1		1
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg	1			1	1						1	1	1			1	1	1	1	1
Oenanthe aquatica																				
Oenanthe fistulosa			1				1	1		1					1					
Phragmites australis*																				
Ranunculus sceleratus								1												
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*			2		2	1	2	2	3	3	2			1	3		3	1		1
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex acuta																				
Carex divisa		1		1		1		1						1		1			1	
Carex otrubae												1					1			
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus								1		1		1		1						
Juncus gerardii															1					
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara																				
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*								2												
Ditch choked																				
Ditch dry (N = near dry)																				
Width (nearest metre)	3	3	3	3	3	3	4	3	8	6	3	3	3	3	6	3	3	3	3	4
Land use north / east	P	P	P	P	P	P	P	H	H	H	P	P	P	P	H	P	P	P	P	P
Land use south / west	P	P	P	P	P	P	P	H	H	H	P	P	P	P	H	P	P	P	P	P
Conductivity (μScm x 100)	12	42	50	30	42	44	50	29	44	40	55	30	40	39	39	41	20	50	32	31

Ditch Number	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440
Number of aquatic species	4	4	2	3	5	3	4	3	2	2	4	5	6	5	3	6	3	2	4	6
Number of emergent species	2	2	3	3	4	2	3	5	2	3	5	3	3	2	3	3	2	5	1	6
Number of bank species	0	1	0	1	0	1	0	2	0	1	0	2	0	2	1	1	1	0	1	0
Total number of species	6	7	5	7	9	6	7	10	4	6	9	10	9	9	7	10	6	7	6	12

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460
Azolla filiculoides					1		1					1	1							
Callitriche obtusangula	1												1		1					
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1	1	1	1		1		1	1		1	1	1	1	1	1	1	1	1	1
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†			1															1		
Filamentous algae†	1	1					1	1		1	1	1	1	1	1	1		1	1	1
Hydrocharis morsus-ranae																				
Lemna gibba	1					1					1				1					
Lemna miniscula																				
Lemna minor		1				1					1				1				1	
Lemna trisulca	1	1	1			1	1		1		1	1	1		1	1	1		1	1
Myriophyllum aquaticum																				
Myriophyllum spicatum			1																	
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus		1		1			1			1		1	1	1	1	1	1	1		1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii	1	1		1	1		1													
Ranunculus circinatus																				
Ranunculus trichophyllus					1		1						1							
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta	1		1					1			1		1		1	1		1	1	1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1	1		1		1	1	1		1	1	1	1	1	1	1	1		1	1
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris	1																			
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg	1	1			1	1	1		1		1	1	1			1	1	1		
Oenanthe aquatica																				
Oenanthe fistulosa				1			1	1		1		1	1		1	1		1		
Phragmites australis*					2															
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*			2	3	2		2	2	1	3	1	2	1			2	3	2	3	1
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex acuta																				
Carex divisa		1	1						1		1		1	1			1			
Carex otrubae			1			1										1				
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus																				1
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara																				
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*			1																	
Ditch choked																				
Ditch dry (N = near dry)																				
Width (nearest metre)	3	3	3	5	6	3	4	2	3	3	3	3	3	3	3	4	3	3	3	4
Land use north / east	P	P	H	P	U	P	P	P	P	H	P	P	P	P	P	P	P	P.	P	P
Land use south / west	P	P	H	P	P	P	P	P	P	H	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)	25	40	21	50	33	30	40	44	12	50	36	31	38	33	25	32	33	31	33	30

Ditch Number	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460
Number of aquatic species	5	5	3	3	3	4	5	1	2	1	4	4	6	2	6	3	3	2	3	3
Number of emergent species	4	2	2	3	3	2	4	4	2	3	4	4	5	1	3	5	3	4	3	3
Number of bank species	0	1	2	0	0	1	0	0	1	0	1	0	1	1	0	1	1	0	0	1
Total number of species	9	8	7	6	6	7	9	5	5	4	9	8	12	4	9	9	7	6	6	7

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480
Azolla filiculoides				1						1	1				1					
Callitriche obtusangula	1													1						
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1		1	1	1
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†				1																
Filamentous algae†	1	1	1	1	1	1	1		1	1		1				1	1	1	1	
Hydrocharis morsus-ranae																				
Lemna gibba	1	1														1				
Lemna miniscula																				
Lemna minor		1		1		1				1						1	1			
Lemna trisulca	1	1	1	1	1	1			1			1		1		1	1	1		
Myriophyllum aquaticum																				
Myriophyllum spicatum																				
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus		1	1	1	1					1					1				1	1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii								1												
Ranunculus circinatus																				
Ranunculus trichophyllus	1						1							1					1	
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum										1										
Berula erecta	1	1	1	1						1		1	1	1				1		
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1	1	1	1	1		1	1			1		1	1	1				1	1
Equisetum fluviatile																				
Glyceria fluitans							1									1				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg			1	1	1		1			1				1		1		1		
Oenanthe aquatica																				
Oenanthe fistulosa	1		1	1	1		1	1		1				1		1		1	1	1
Phragmites australis*													1							
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	1	2	1	1	2	3	2	3	3	3	2	3	3		3	1	3	3		3
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica catenata											1									
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex acuta																				
Carex divisa													1			1				
Carex otrubae					1		1		1	1				1	1	1				
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus																1				
Juncus inflexus						1	1						1			1	1		1	
Juncus gerardii															1					
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara												1								
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked																				
Ditch dry (N = near dry)																				
Width (nearest metre)	5	3	3	5	4	3	2	2	2	3	6	4	3	4	5	2	2	4	2	4
Land use north / east	P	P	P	P	P	H	P	H	H	H	U	H	P	P	H	H	H	H	H	H
Land use south / west	P	P	P	P	P	H	P	H	H	P	P	H	H	P	H	P	H	H	P	H
Conductivity (µScm x 100)	22	30	30	28	34	35	31	58	31	38	34	29	35	30	42	30	42	34	29	52

Ditch Number	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480
Number of aquatic species	5	5	3	5	3	2	2	2	2	4	2	2	1	4	3	4	2	2	3	2
Number of emergent species	4	3	5	5	4	1	5	3	1	5	3	2	4	4	2	4	1	4	2	3
Number of bank species	0	0	0	0	1	1	2	0	1	1	0	1	2	1	2	4	1	0	1	0
Total number of species	9	8	8	10	8	4	9	5	4	10	5	5	7	9	7	12	4	6	6	5

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500
Azolla filiculoides							1				1				1	1	1			
Callitriche obtusangula					1			1												
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1	1	1	1	1	1	1	1		1	1		1	1		1	1	1	1	
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†	1	1	1	1	1	1		D	1	D	1		D	1		1		1	1	
Hydrocharis morsus-ranae																				
Lemna gibba			1		1															
Lemna miniscula																				
Lemna minor						1		1						1					1	
Lemna trisulca	1	1	1	1	1	1		1		1			1	1		1			1	
Myriophyllum aquaticum																				
Myriophyllum spicatum																				
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus					1	1	1	1	1	1	1		1	1		1		1		
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii									1											
Ranunculus circinatus																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta		1						1		1					1				1	
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris			1	1	1		1	1		1	1	1			1	1	1			
Equisetum fluviatile																				
Glyceria fluitans				1																
Glyceria maxima																				
Hippuris vulgaris									1											
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg			1	1	1									1						
Oenanthe aquatica																				
Oenanthe fistulosa			1	1	1		1				1			1		1				
Phragmites australis*															1					
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	2	3	2	1	2	3	2	2	3	2	2	3	2	3	2	3	3	2	2	3
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia		1																		
Veronica catenata									1						1					
Grass dom (Agro/Alop)†																				
Atriplex hastata	1											1	1					1	1	
Aster tripolium																				
Carex acuta																				
Carex divisa										1			1					1		
Carex otrubae					1			1		1			1	1						1
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus																				
Juncus gerardii			1		1								1				1			
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi	1												1							
Scutellaria galericulata																				
Solanum dulcamara													1							
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*	1																			
Ditch choked												1								1
Ditch dry (N = near dry)												1								1
Width (nearest metre)	2	3	3	2	3	5		4	8	3	2	3	3	3	6	3	6	3	4	4
Land use north / east	P	H	P	P	P	P	P	P	H	P	P	P	H	P	P	P	H	P	S	P
Land use south / west	U	H	P	P	P	H	P	S	P	S	P	P	P	P	P	P	H	U	P	P
Conductivity (µScm x 100)	54	36	22	29	22	30		46	32	46	23		52	29	33	39	40	56	44	

Ditch Number	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500
Number of aquatic species	2	2	3	2	5	4	3	5	2	3	3	0	3	4	1	4	2	2	3	0
Number of emergent species	1	3	4	5	4	1	3	3	3	3	3	2	1	3	5	3	2	1	2	1
Number of bank species	2	0	1	0	2	0	0	1	0	2	0	1	6	1	0	0	1	2	1	1
Total number of species	5	5	8	7	11	5	6	9	5	8	6	3	10	8	6	7	5	5	6	2

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520
Azolla filiculoides		1			1															
Callitriche obtusangula				1					1					1						
Callitriche stagnalis/spp																				
Ceratophyllum demersum									1		1			1						
Ceratophyllum submersum		1			1								1					1	1	
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†				1					1		1			D		1				
Filamentous algae†	1		1		1								1		1			D	D	1
Hydrocharis morsus-ranae																				
Lemna gibba			1								1									
Lemna miniscula																				
Lemna minor	1			1					1		1		1	1		1		1	1	
Lemna trisulca	1			1	1				1		1		1	1		1		1	1	1
Myriophyllum aquaticum																				
Myriophyllum spicatum											1									
Nymphaea alba																				
Potamogeton crispus				1							1			1						
Potamogeton pectinatus			1		1						1									1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				1
Ranunculus circinatus																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta	1								1				1	1		1		1	1	1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris		1	1	1					1		1		1	1						
Equisetum fluviatile																				
Glyceria fluitans			1																	
Glyceria maxima																				
Hippuris vulgaris					1															
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg	1		1		1								1					1		
Oenanthe aquatica																				
Oenanthe fistulosa					1									1	1					
Phragmites australis*							1													
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	2	2		1	2	3	2	3	2	3	2	3	2	2	3	3	3	2	2	
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica catenata		1																		
Grass dom (Agro/Alop)†																				
Atriplex hastata																		1		
Aster tripolium																				
Carex acuta																				
Carex divisa									1		1			1				1	1	
Carex otrubae				1					1				1	1		1				
Chenopodium chenopodioides																				
Crassula helmsii									1							1				
Epilobium hirsutum				1																
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus				1					1					1						
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus				1					1					1		1		1	1	
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara				1												1				
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*				1						2	1					1				
Ditch choked						1		1		1		1				1				
Ditch dry (N = near dry)						N		1		1		1				N	1			
Width (nearest metre)	2	1	2	4	3	3	5	3	3	2	3	3	4	3	2	2	2	3	3	2
Land use north / east	P	P	P	P	P	P	U	P	U	F	P	P	S	P	P	P	F	P.	S	P
Land use south / west	P	P	P	U	P	P	P	P	H	U	H	P	P	H	P	F	F	P	P	P
Conductivity (µScm x 100)	23		25	4	30	92	30		6		39		45	21	46	26		42	42	30

Ditch Number	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520
Number of aquatic species	2	2	2	4	4	0	0	0	4	0	7	0	3	5	0	2	0	3	3	3
Number of emergent species	3	3	3	2	4	1	2	1	3	1	2	1	4	4	2	2	1	3	2	1
Number of bank species	0	0	0	5	0	0	0	0	5	0	1	0	1	4	0	4	0	3	2	0
Total number of species	5	5	5	11	8	1	2	1	12	1	10	1	8	13	2	8	1	9	7	4

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum		1		1	1												1			
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†					1			D			1				1			1		
Hydrocharis morsus-ranae																				
Lemna gibba				1													1			
Lemna miniscula																				
Lemna minor			1	1	1	1					1						1	1		
Lemna trisulca			1		1						1							1	1	
Myriophyllum aquaticum																				
Myriophyllum spicatum																				
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus																	1			
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus circinatus																				
Ranunculus trichophyllus										1					1			1	1	
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta											1									
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris				1	1												1			
Equisetum fluviatile																				
Glyceria fluitans							1					1				1				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa		1		1	1	1	1										1	1	1	
Phragmites australis*		2											1							1
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*		2	2			3	3	2	3	3	2	1			2	2	1	2	2	
Sparganium erectum																				
Typha angustifolia					1															
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata			1			1	1		1	1		1			1	1			1	
Aster tripolium																				
Carex acuta																				
Carex divisa																1				
Carex otrubae					1															
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre							1									1				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus				1	1		1					1				1	1			
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi															1					
Scutellaria galericulata																				
Solanum dulcamara						1	1					1				1				
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*	3					1	1		1	1		2	2	3	1	2				3
Ditch choked		1					1			1										
Ditch dry (N = near dry)	1					N	1	N	N	1		1	1	1	N	N				1
Width (nearest metre)	1	2	2	1	1	2	2	2	2	2	2	1	1	1	2	2	1	2	2	1
Land use north / east	F	P	P	P	P	P	H	S	H	P	P	H	P	F	P	F	P	S	P	F
Land use south / west	A	P	P	P	P	F	F	P	P	P	P	F	F	F	H	H	P	P	P	A
Conductivity (µScm x 100)		42	63	44	39	66		59	96		61				109	40	43	70	79	

Ditch Number	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540
Number of aquatic species	0	1	2	3	3	1	0	0	0	1	2	0	0	0	1	0	4	3	2	0
Number of emergent species	0	3	1	2	3	2	3	1	1	1	2	2	1	0	1	2	3	2	2	1
Number of bank species	0	0	1	1	2	2	4	0	1	1	0	3	0	0	2	5	1	0	1	0
Total number of species	0	4	4	6	8	5	7	1	2	3	4	5	1	0	4	7	8	5	5	1

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560
Azolla filiculoides								1	1											
Callitriche obtusangula																1		1	1	
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum								1										1	1	
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†					1								1							
Filamentous algae†			1		1			1	1	1		1								
Hydrocharis morsus-ranae																				
Lemna gibba								1											1	
Lemna miniscula																				
Lemna minor								1	1									1	1	
Lemna trisulca					1		1	1	1				1	1					1	
Myriophyllum aquaticum																				
Myriophyllum spicatum																				
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus	1							1												
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii								1												
Ranunculus circinatus																				
Ranunculus trichophyllus			1	1			1			1		1				1				
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta								1								1			1	
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris								1								1		1	1	
Equisetum fluviatile																				
Glyceria fluitans															1					
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																		1	1	
Oenanthe aquatica																				
Oenanthe fistulosa		1						1				1	1					1	1	
Phragmites australis*	2										1					1	3			3
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	2	2	2	3	2	1	2		3	3		2	2	2		1				1
Sparganium erectum																		1	1	
Typha angustifolia																		1		
Typha latifolia																				
Veronica catenata	1																			
Grass dom (Agro/Alop)†																				
Atriplex hastata		1	1	1		1	1		1			1		1						1
Aster tripolium																				
Carex acuta																				
Carex divisa					1							1			1					
Carex otrubae					1				1			1	1	1		1				
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																		1	1	
Glaux maritima																				
Juncus effusus																				
Juncus inflexus						1		1				1			1	1		1	1	
Juncus gerardii																			1	
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																			1	
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica							1													
Salicornia sp																				
Samolus valerandi		1																		
Scutellaria galericulata																				
Solanum dulcamara			1		1				1							1				
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*		1	3		1	3	1		1		3	1	1	2	3	2	1			
Ditch choked				1													1			1
Ditch dry (N = near dry)		N	N			1			N		1				1	1	1			1
Width (nearest metre)	7	2	2	2	2	1	2	4	2	2	2	1	2	2	2	2	2	1	3	2
Land use north / east	U	P	P	S	P	F	F	P	H	P	U	P	F	P	P	P	U	P	P	P
Land use south / west	P	H	F	P	F	P	P	P	P	P	F	P	P	F	H	H	F	P	P	H
Conductivity (µScm x 100)	23	105	63	62	60		69	28	62	76		67	65	75				19	20	

Ditch Number	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560
Number of aquatic species	1	0	1	1	1	0	2	7	3	1	0	1	1	1	0	2	0	3	5	0
Number of emergent species	3	2	1	1	1	1	1	3	1	1	1	2	2	1	1	4	1	5	5	2
Number of bank species	0	2	2	1	3	2	2	1	3	0	0	4	1	2	2	3	0	2	4	1
Total number of species	4	4	4	3	5	3	5	11	7	2	1	7	4	4	3	9	1	10	14	3

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580
Azolla filiculoides																				
Callitriche obtusangula				1				1				1				1		1	1	
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum				1								1				1		1	1	1
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†																	1		1	
Hydrocharis morsus-ranae																				
Lemna gibba				1								1								
Lemna miniscula																				
Lemna minor				1								1				1		1		1
Lemna trisulca	1			1								1				1		1		1
Myriophyllum aquaticum																				
Myriophyllum spicatum																				
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus																1			1	
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii								1									1			
Ranunculus circinatus																				
Ranunculus trichophyllus	1																			
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																			1	1
Apium nodiflorum																				
Berula erecta								1				1						1		1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris				1		1	1	1			1	1				1	1	1	1	
Equisetum fluviatile																				
Glyceria fluitans							1			1			1	1	1					
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa	1	1		1	1	1	1	1		1		1	1	1		1	1	1	1	1
Phragmites australis*	3						1			3						2		2		
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	1	3	3		3	2	2	2		1	1		1	1		2	3	2	3	2
Sparganium erectum								1				1								1
Typha angustifolia				1																1
Typha latifolia																				
Veronica catenata												1						1	1	
Grass dom (Agro/Alop)†																				
Atriplex hastata		1	1		1															
Aster tripolium																				
Carex acuta																				
Carex divisa						1	1	1	1	1	1		1	1	1	1	1	1		1
Carex otrubae				1				1				1					1		1	1
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum												1								
Eupatorium cannabinum																				
Galium palustre				1								1								
Glaux maritima																				
Juncus effusus				1																
Juncus inflexus				1				1				1	1	1			1			1
Juncus gerardii				1																
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa												1								
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																	1			
Scutellaria galericulata																				
Solanum dulcamara							1									1	1		1	1
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*		1				1	2	1	2	1	1			1		1	1		1	2
Ditch choked	1	1	1		1			1		1						1	1			
Ditch dry (N = near dry)		1	N		N	1	1		1	1	1		1	1	1					
Width (nearest metre)	1	1	1	4	1	2	1	1	3	3	3	3	2	3	2	2	2	3	3	3
Land use north / east	U	S	U	P	U	H	P	P	P	H	P	P	H	H	H	P	P	P	H	H
Land use south / west	P	P	F	P	H	H	P	P	P	H	P	P	H	H	H	P	P	P	H	P
Conductivity (µScm x 100)	54		64	22	62			48				17				35	35	35	22	31

Ditch Number	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580
Number of aquatic species	2	0	0	5	0	0	0	2	0	0	0	5	0	0	0	5	1	4	3	3
Number of emergent species	3	2	1	3	2	3	5	5	0	4	2	5	3	3	1	4	3	6	5	6
Number of bank species	0	1	1	5	1	1	2	3	1	1	1	5	2	2	1	2	5	1	2	4
Total number of species	5	3	2	13	3	4	7	10	1	5	3	15	5	5	2	11	9	11	10	13

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600
Azolla filiculoides								1					1					1		
Callitriche obtusangula	1	1				1			1											
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1	1	1			1			1										1	
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†	1					1													1	
Hydrocharis morsus-ranae																				
Lemna gibba		1																		
Lemna miniscula																				
Lemna minor		1	1									1							1	
Lemna trisulca	1	1	1		1	1		1		1		1	1		1	1	1		1	
Myriophyllum aquaticum																				
Myriophyllum spicatum																				
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus	1					1														
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus circinatus																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica		1										1								
Apium nodiflorum		1										1								
Berula erecta	1	1	1			1			1				1			1	1		1	
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1		1			1	1		1					1		1		1	1	
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg									1							1				
Oenanthe aquatica																				
Oenanthe fistulosa		1	1	1	1	1	1	1								1		1	1	
Phragmites australis*			3	3	3					3	3				3					
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	3					3							3			3	3	3	1	
Sparganium erectum		1				1	1	1	1			1			1					
Typha angustifolia								1	1				1	1		1	1			1
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata				1					1											
Aster tripolium																				
Carex acuta																				
Carex divisa			1				1												1	
Carex otrubae		1		1	1			1		1						1				
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum											1		1				1			
Eupatorium cannabinum																				
Galium palustre		1						1	1											
Glaux maritima																				
Juncus effusus		1																		
Juncus inflexus	1	1					1	1	1				1	1		1	1		1	
Juncus gerardii		1							1											
Juncus maritima																				
Lycopus europaeus													1	1						
Mentha aquatica																				
Myosotis cespitosa		1						1	1											
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica													1							
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara												1		1						1
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*	1					1					2	1		1						
Ditch choked				1	1		1	1		1	1	1	1	1	1		1			1
Ditch dry (N = near dry)				1			1							1						
Width (nearest metre)	3	2	2	3	3	3	2	2	4	3	3	3	2	2	2	2	2	4	3	1
Land use north / east	P	P	P	H	P	H	H	P	P	H	H	P	P	H	H	P	P	P	P	H
Land use south / west	H	P	H	P	H	H	H	P	P	P	H	P	H	H	P	P	H	P	P	H
Conductivity (µScm x 100)	33	19	35		34	22		30	22	34		10	16		37	20	18	40	29	14

Ditch Number	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600
Number of aquatic species	4	5	3	0	1	4	0	2	2	1	0	2	2	0	1	1	1	1	3	0
Number of emergent species	3	5	4	2	2	5	3	3	5	1	1	3	3	2	2	6	3	3	4	1
Number of bank species	1	6	1	2	1	0	2	4	5	1	1	1	4	3	0	2	2	0	2	1
Total number of species	8	16	8	4	4	9	5	9	12	3	2	6	9	5	3	9	6	4	9	2

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI

Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620
Azolla filiculoides					1														1	
Callitriche obtusangula				1			1			1		1		1	1		1			
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum										1	1		1		1	1				
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†								1		1	1			1	1		1	1	1	
Hydrocharis morsus-ranae																				
Lemna gibba										1					1					
Lemna miniscula																				
Lemna minor	1						1	1		1					1					
Lemna trisulca	1	1		1	1		1			1						1				
Myriophyllum aquaticum																				
Myriophyllum spicatum											1									
Nymphaea alba																			1	
Potamogeton crispus																				
Potamogeton pectinatus													1			1				
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii											1			1						
Ranunculus circinatus																				
Ranunculus trichophyllus																1				
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																1				
Alisma plantago-aquatica						1	1			1					1		1			
Apium nodiflorum																				
Berula erecta	1					1	1			1		1			1		1			
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris					1		1	1			1	1	1			1	1		1	1
Equisetum fluviatile																				
Glyceria fluitans											1									
Glyceria maxima																				
Hippuris vulgaris																				1
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg															1	1	1			
Oenanthe aquatica																				
Oenanthe fistulosa						1					1	1	1			1		1		1
Phragmites australis*	3	3		3					3		3			3			3			
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																			1	1
Scirpus maritimus*			3		3	3	2	2	1	3	1	2	2		3	2	3	3	1	3
Sparganium erectum	1					1	1			1					1		1			
Typha angustifolia	1					1					1	1		1						
Typha latifolia					1		1													
Veronica catenata							1										1			
Grass dom (Agro/Alop)†																				
Atriplex hastata							1								1					
Aster tripolium																				
Carex acuta																				
Carex divisa					1		1					1				1				1
Carex otrubae					1	1	1					1	1							
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre	1					1														
Glaux maritima																				
Juncus effusus																				
Juncus inflexus					1	1	1									1				
Juncus gerardii																1				
Juncus maritima																				
Lycopus europaeus						1	1			1					1		1			
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii							1													
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																1				
Scutellaria galericulata																				
Solanum dulcamara					1	1														
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*	1					1														
Ditch choked	1	1	1		1	1			1		1	1		1				1		1
Ditch dry (N = near dry)		1	1						1			1						1		1
Width (nearest metre)	2	3	1	5	3	2	3	3	2	2	2	1	4	2	3	3	3	2	4	1
Land use north / east	H	H	H	H	H	H	H	P	H	H	H	H	P	H	H	P	H	H	P	H
Land use south / west	P	H	H	H	H	H	H	P	H	H	H	H	P	H	H	P	H	H	P	H
Conductivity (µScm x 100)	11			19	40	21	15	70		20	54		33	66	20	40	19		35	

Ditch Number	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620
Number of aquatic species	2	1	0	2	2	0	3	1	0	5	3	1	2	2	4	5	1	0	2	0
Number of emergent species	4	1	1	1	3	6	7	2	2	4	6	5	3	2	5	4	8	2	3	5
Number of bank species	1	0	0	0	4	5	6	0	0	1	0	2	1	0	2	4	1	0	0	1
Total number of species	7	2	1	3	9	11	16	3	2	10	9	8	6	4	11	13	10	2	5	6

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640
Azolla filiculoides								1												
Callitriche obtusangula	1						1		1				1	1						1
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum					1								1			1				
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†									1							1				
Filamentous algae†	1	1	1		1		1		1			1	1	1	1	1			1	1
Hydrocharis morsus-ranae																				
Lemna gibba																1				
Lemna miniscula																				
Lemna minor								1								1				
Lemna trisulca																1			1	
Myriophyllum aquaticum																				
Myriophyllum spicatum									1					1						1
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus						1						1	1							
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii							1							1		1				1
Ranunculus circinatus																				
Ranunculus trichophyllus																				1
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica				1										1						
Apium nodiflorum																				
Berula erecta	1													1						1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris				1	1	1				1	1	1	1	1	1	1				1
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris				1	1								1							
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg								1												
Oenanthe aquatica																				
Oenanthe fistulosa	1	1	1	1	1	1	1		1	1	1	1	1		1		1	1		1
Phragmites australis*								3	1						1	2				3
Ranunculus sceleratus							1													
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris				1									1							
Scirpus maritimus*	3	3	3	3	3	3	3		3	3	3	3	3	1	3	1	3	3	3	3
Sparganium erectum	1													1						
Typha angustifolia																1				
Typha latifolia																				
Veronica catenata														1		1				1
Grass dom (Agro/Alop)†																1				
Atriplex hastata	1																1	1		
Aster tripolium																				
Carex acuta																				
Carex divisa		1					1		1		1		1		1	1	1	1		1
Carex otrubae	1	1			1								1							
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus			1					1	1		1			1		1				
Juncus gerardii																	1	1		
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi		1							1											
Scutellaria galericulata																				
Solanum dulcamara																				
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked		1	1	1			1			1					1		1			
Ditch dry (N = near dry)		1	1	1						1	1				1		1	1		
Width (nearest metre)	2	2	3	1	2	3	2	4	5	1	1	3	2	3	2	2	1	2	3	4
Land use north / east	H	H	H	H	H	P	H	P	H	H	H	P	H	H	H	H	H	H	P	H
Land use south / west	H	H	H	H	H	P	H	H	H	H	H	P	H	H	H	H	H	H	P	H
Conductivity (µScm x 100)	72				10	192	78	17	35			49	60	17		24			60	35

Ditch Number	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640
Number of aquatic species	1	0	0	0	1	1	2	2	2	0	0	1	3	3	0	5	0	0	1	4
Number of emergent species	4	2	2	6	4	3	3	2	3	3	3	3	5	6	4	5	2	2	1	6
Number of bank species	2	3	1	0	1	0	1	1	3	0	2	0	2	1	1	2	3	3	0	1
Total number of species	7	5	3	6	6	4	6	5	8	3	5	4	10	10	5	12	5	5	2	11

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660
Azolla filiculoides		1																		
Callitriche obtusangula											1	1			1			1	1	
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1									1		1	1				1	1		1
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†									1		1	1	1		1		1	1	1	1
Filamentous algae†				1			1				1		1	1	1			1		1
Hydrocharis morsus-ranae																				
Lemna gibba								1		1		1	1				1			
Lemna miniscula																				
Lemna minor								1	1	1	1	1	1	1	1		1	1	1	
Lemna trisulca	1	1						1		1	1	1	1	1	1		1			1
Myriophyllum aquaticum																				
Myriophyllum spicatum											1			1	1				1	
Nymphaea alba																				
Potamogeton crispus																			1	
Potamogeton pectinatus									1		1	1	1		1		1	1	1	1
Potamogeton pusillus/berchtoldii																			1	
Ranunculus baudotii											1								1	
Ranunculus circinatus																				
Ranunculus trichophyllus															1					
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris											1									
Alisma plantago-aquatica								1			1							1		
Apium nodiflorum													1					1	1	1
Berula erecta								1			1				1			1		
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris		1	1					1	1	1	1	1	1		1	1	1	1	1	1
Equisetum fluviatile										1										
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris							1	1			1								1	
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg											1								1	1
Oenanthe aquatica																				
Oenanthe fistulosa	1					1	1							1				1		
Phragmites australis*		2												3						
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	3		3	3	3	3	3	2		1	1	2		3	1		1		1	1
Sparganium erectum								1			1	1			1			1	1	
Typha angustifolia											1				1			1		
Typha latifolia																				
Veronica catenata											1				1				1	
Grass dom (Agro/Alop)†											1			1						1
Atriplex hastata	1						1													
Aster tripolium																				
Carex acuta																				
Carex divisa			1			1			1	1		1	1			1	1		1	
Carex otrubae																			1	
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum		1																		
Eupatorium cannabinum																				
Galium palustre		1																		
Glaux maritima																				
Juncus effusus																				
Juncus inflexus		1								1	1	1	1		1		1	1	1	1
Juncus gerardii														1						
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi			1			1														
Scutellaria galericulata																				
Solanum dulcamara	1	1					1													
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*		3			1															
Ditch choked			1	1		1	1													
Ditch dry (N = near dry)			1	1		1										1				
Width (nearest metre)	3	5	3	2	3	1	2	3	6	4	4	4	4	4	4	3	3	3	4	3
Land use north / east	P	H	P	H	H	H	H	H	P	P	P	P	P	H	P	H	P	P	P	P
Land use south / west	P		P	H	H	H	H	H	P	P	P	P	P	H	P	H	P	P	P	P
Conductivity (µScm x 100)	59	17			64		73	16	17	20	17	20	20	36	17		40	21	17	40

Ditch Number	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660
Number of aquatic species	2	2	0	0	0	0	0	3	2	4	7	6	5	3	6	0	5	4	7	3
Number of emergent species	2	2	2	1	1	2	3	6	1	3	9	3	2	3	6	1	2	7	7	4
Number of bank species	2	4	2	0	0	2	2	0	1	2	1	2	2	1	1	1	2	1	3	1
Total number of species	6	8	4	1	1	4	5	9	4	9	17	11	9	7	13	2	9	12	17	8

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680
Azolla filiculoides																				1
Callitriche obtusangula		1		1			1			1	1		1		1					
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1	1				1			1						1					
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†		1				1							1		1					
Filamentous algae†	1	1			1	1	1			1				1			1			
Hydrocharis morsus-ranae																				
Lemna gibba	1																			
Lemna miniscula																				
Lemna minor	1	1				1							1		1	1		1		
Lemna trisulca	1	1			1	1		1	1						1	1				
Myriophyllum aquaticum																				
Myriophyllum spicatum				1			1				1									1
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus	1	1	1							1					1					
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii											1							1		
Ranunculus circinatus																				
Ranunculus trichophyllus			1	1																
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica		1		1		1				1	1				1					
Apium nodiflorum		1				1									1					
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1	1	1	1		1				1	1		1		1		1		1	1
Equisetum fluviatile																				
Glyceria fluitans																			1	
Glyceria maxima																				
Hippuris vulgaris										1										
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg		1													1					
Oenanthe aquatica															1					
Oenanthe fistulosa					1				1	1							1			1
Phragmites australis*					3		3	3	3		1	3	1			1		3		1
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				1
Scirpus maritimus*	1	1	1	2	1	1	3	1	2	3	3			3		1	3			1
Sparganium erectum			1	1		1					1					1				
Typha angustifolia		1	1			1								1						
Typha latifolia																				
Veronica catenata		1	1	1																
Grass dom (Agro/Alop)†																			1	
Atriplex hastata																		1		
Aster tripolium																				
Carex acuta																				
Carex divisa	1	1	1										1			1		1	1	1
Carex otrubae													1							
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1			1	1
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara																1				
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*												3								
Ditch choked								1						1			1			
Ditch dry (N = near dry)																			1	
Width (nearest metre)	4	4	5	5	3	4	4	3	3	1	4	5	2	1	5	4	2	3	2	4
Land use north / east	P	P	H	H	H	P	H	P	H	H	H	H	H	H	P	P	H	P	P	H
Land use south / west	P	P	H	H	H	P	P	H	H	H	H	A	P	H	P	P	H	H	P	P
Conductivity (µScm x 100)	40	24	19	19	36	27	38	40	34	30	19	29	31	77	23	26	30	36		28

Ditch Number	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680
Number of aquatic species	5	5	2	3	1	3	2	1	2	2	3	0	2	0	5	2	0	2	0	2
Number of emergent species	2	7	5	5	3	6	2	2	3	5	5	1	2	2	5	3	3	1	2	5
Number of bank species	2	2	2	1	1	1	1	1	1	1	1	0	3	1	1	3	0	2	2	2
Total number of species	9	14	9	9	5	10	5	4	6	8	9	1	7	3	11	8	3	5	4	9

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700
Azolla filiculoides				1					1											1
Callitriche obtusangula							1	1												
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum		1						1									1	1		
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†					1		1	1												
Filamentous algae†					1			1			1				1	1	1	1	1	
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor					1		1	1									1	1		1
Lemna trisulca		1	1		1		1	1									1			1
Myriophyllum aquaticum																				
Myriophyllum spicatum	1			1			1													
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus							1	1									1	1		
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus circinatus																				
Ranunculus trichophyllus	1																			
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris		1		1	1	1		1	1	1	1		1		1	1	1	1	1	
Equisetum fluviatile																				
Glyceria fluitans										1									1	
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa				1	1				1									1		1
Phragmites australis*		3	3				3					3	3	2			3			3
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris						1														
Scirpus maritimus*	2	3	1	3	3	3		1		1	3		3	2	3	2		1	2	
Sparganium erectum	1				1															
Typha angustifolia									1				1							
Typha latifolia																				
Veronica catenata	1																			
Grass dom (Agro/Alop)†										1				1					1	
Atriplex hastata																				
Aster tripolium																				
Carex acuta																				
Carex divisa			1	1		1	1	1					1	1	1		1			
Carex otrubae			1		1		1									1				
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus	1	1		1	1		1	1	1	1		1			1	1	1		1	1
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara																				
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked					1							1								
Ditch dry (N = near dry)			1		N	1				1	1	1		1	1	1			1	
Width (nearest metre)	6	3	3	4	2	3	3	4	4	3	3	2	4	2	3	3	4	4	3	3
Land use north / east	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P		P	P	P
Land use south / west	P	P	P	P	P	P	P	P	P	P	P	P	H	P	P	P	P	P	P	P
Conductivity (µScm x 100)	22	44		27	68		47	38	26				34				22	33		16

Ditch Number	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700
Number of aquatic species	2	2	1	2	2	0	5	5	1	0	0	0	0	0	0	0	4	3	0	3
Number of emergent species	3	3	2	3	4	3	1	2	3	3	2	1	4	2	2	2	2	3	3	2
Number of bank species	1	1	2	2	2	1	3	2	1	1	0	1	1	1	2	2	2	0	1	1
Total number of species	6	6	5	7	8	4	9	9	5	4	2	2	5	3	4	4	8	6.	4	6

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720
Azolla filiculoides		1					1													
Callitriche obtusangula											1				1			1		
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum													1				1			
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†	1				1			1			1		1				1			
Hydrocharis morsus-ranae																				
Lemna gibba														1						
Lemna miniscula																				
Lemna minor		1										1	1	1		1	1	1		
Lemna trisulca		1					1					1		1						
Myriophyllum aquaticum																				
Myriophyllum spicatum				1													1			
Nymphaea alba																				
Potamogeton crispus																	1			
Potamogeton pectinatus				1										1			1			
Potamogeton pusillus/berchtoldii																	1			
Ranunculus baudotii														1	1					
Ranunculus circinatus																				
Ranunculus trichophyllus										1										
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica				1										1		1	1			
Apium nodiflorum															1					
Berula erecta												1				1	1		1	
Butomus umbellatus																				
Carex riparia												1								
Eleocharis palustris	1	1			1		1	1	1	1	1				1	1	1			
Equisetum fluviatile												1								
Glyceria fluitans			1			1					1									1
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																	1			
Oenanthe aquatica																				
Oenanthe fistulosa		1					1				1									
Phragmites australis*		3			3		3	2				3	1	1				1	1	
Ranunculus sceleratus												1				1	1			
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris										1	1									
Scirpus maritimus*	2			2	2	1	1	2	3	2		3	3	2	2	2	1			3
Sparganium erectum				1												1	1			
Typha angustifolia							1			1										
Typha latifolia												1		1		1				
Veronica catenata				1						1					1		1			
Grass dom (Agro/Alop)†			1			1														1
Atriplex hastata																				
Aster tripolium																				
Carex acuta																				
Carex divisa	1					1	1		1											1
Carex otrubae							1	1								1		1		
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum										1		1		1						
Eupatorium cannabinum																				
Galium palustre												1								
Glaux maritima																				
Juncus effusus																				
Juncus inflexus		1	1		1		1	1		1		1		1		1	1			
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus				1								1		1		1		1		
Mentha aquatica												1								
Myosotis cespitosa										1		1								
Oenanthe lachenalii														1						
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara												1		1						
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*													2					3	3	
Ditch choked																				
Ditch dry (N = near dry)	1		1		1	1		1	1		1				1	1			1	1
Width (nearest metre)	3	4	3	6	4	2	4	3	5	8	4	20	6	6	3	5	3	2	4	2
Land use north / east	P	P	H	U	P	P	P	P	P		P	P	P	P	P	P	P	P	A	P
Land use south / west	P	P	H	P	P	P	H	P	P	P	P	U	P	A	P	P	P		P	P
Conductivity (µScm x 100)		20		24			33			24		14	17	19			18	9		

Ditch Number	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720
Number of aquatic species	0	3	0	2	0	0	2	0	0	1	1	2	2	5	2	1	6	2	0	0
Number of emergent species	2	3	1	4	3	2	5	3	2	5	4	7	2	4	4	7	8	1	2	2
Number of bank species	1	1	1	1	1	1	3	2	1	3	0	7	0	5	0	3	1	2	0	1
Total number of species	3	7	2	7	4	3	10	5	3	9	5	16	4	14	6	11	15	5	2	3

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI

Ditch survey data (20m sample sections)

English Nature 1995

Ditch number	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740
Azolla filiculoides																				
Callitriche obtusangula								1								1				
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1															1				
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†	1																			1
Filamentous algae†	1																			
Hydrocharis morsus-ranae																				
Lemna gibba																1				1
Lemna miniscula							1													
Lemna minor	1						1				1		1			1				1
Lemna trisulca	1															1				1
Myriophyllum aquaticum																				
Myriophyllum spicatum																				
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus																				
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii									1											
Ranunculus circinatus																				
Ranunculus trichophyllus										1										
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica	1															1				
Apium nodiflorum			1				1	1								1				
Berula erecta	1																			
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1									1			1			1				
Equisetum fluviatile																				
Glyceria fluitans			1		1	1	1				1									
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																1				
Nasturtium officinale agg							1	1					1			1				
Oenanthe aquatica																				
Oenanthe fistulosa										1										
Phragmites australis*			1									3			3		3		2	
Ranunculus sceleratus	1									1						1				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	3	3	1	3			1	3	2	2	1	3	2	3		1	2	3	2	3
Sparganium erectum	1												1							
Typha angustifolia								1					1							
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†			1		1						1									
Atriplex hastata									1	1							1		1	
Aster tripolium																				
Carex acuta																				
Carex divisa									1											
Carex otrubae	1				1					1			1							1
Chenopodium chenopodioides										1										
Crassula helmsii																				
Epilobium hirsutum						1														
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima							1													
Juncus effusus																				
Juncus inflexus	1		1			1	1						1	1		1				1
Juncus gerardii									1					1					1	
Juncus maritima																				
Lycopus europaeus													1							
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis												1			1					
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara													1							
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*		1	2		3	3									1					
Ditch choked							1													
Ditch dry (N = near dry)		1	1	1	1	1		1	1	1	1	1		1			1	1	1	
Width (nearest metre)	4	2	2	2	3	2	4	4	3	3	3	2	6	3	10	2	3	1	3	4
Land use north / east	P	P	P	P	A	P	P	P	P	P	P	H	P	P	U	P	P		P	P
Land use south / west	P	P		P	P		P	P	P	P	P	H	U	P	P	P	P	H	P	P
Conductivity (μScm x 100)	16						15						11			18				14

Ditch Number	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740
Number of aquatic species	3	0	0	0	0	0	2	1	1	1	1	0	1	0	0	5	0	0	0	3
Number of emergent species	6	1	4	1	1	1	4	4	1	4	2	2	5	1	1	7	2	1	2	1
Number of bank species	2	0	1	0	1	2	2	0	3	3	0	1	4	2	1	1	1	0	2	2
Total number of species	11	1	5	1	2	3	8	5	5	8	3	3	10	3	2	13	3	1	4	6

† Excluded from totals

D = dominant

* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%

Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760
Azolla filiculoides																				
Callitriche obtusangula	1																			
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum				1	1			1												
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†								1												
Hydrocharis morsus-ranae																				
Lemna gibba	1			1	1			1							1					1
Lemna miniscula																				
Lemna minor	1			1	1			1							1					1
Lemna trisulca	1			1	1			1							1					1
Myriophyllum aquaticum																				
Myriophyllum spicatum																				
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus																				
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus circinatus																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica					1															
Apium nodiflorum				1	1		1													
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1			1	1															
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg	1				1															
Oenanthe aquatica																				
Oenanthe fistulosa	1			1		1														
Phragmites australis*						3														
Ranunculus sceleratus								1												
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	3	3	1	3	3	2	1	3	3	3	3	2	3		3	2	3	3	3	2
Sparganium erectum												1								
Typha angustifolia																				
Typha latifolia					1															
Veronica catenata																				
Grass dom (Agro/Alop)†			1				1				1		1	1		1	1		1	
Atriplex hastata							1		1	1			1			1				1
Aster tripolium																				
Carex acuta																				
Carex divisa												1							1	
Carex otrubae								1												
Chenopodium chenopodioides		1																		1
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima						1														
Juncus effusus																				
Juncus inflexus	1					1		1				1	1							
Juncus gerardii	1					1				1										
Juncus maritima						1														
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				1
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara																				
Spergularia marina									1											
Spergularia media																				
Triglochin palustre																				
Scrub cover*			3											3						
Ditch choked									1											
Ditch dry (N = near dry)		1	1				1		1	1	1	1	1	1		1	1	1	1	
Width (nearest metre)	2	2	4	3	4	3	2	3	4	2	3	5	3	4	4	2	2	2	1	3
Land use north / east	P	H	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Land use south / west	P	H	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P
Conductivity (µScm x 100)	26			27	17	98		22							23					32

Ditch Number	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760
Number of aquatic species	4	0	0	4	4	0	0	4	0	0	0	0	0	0	3	0	0	0	0	3
Number of emergent species	4	1	1	4	6	3	2	2	1	1	1	2	1	0	1	1	1	1	1	1
Number of bank species	2	1	0	0	0	4	1	2	2	2	0	2	2	0	0	1	0	0	1	3
Total number of species	10	2	1	8	10	7	3	8	3	3	1	4	3	0	4	2	1	1	2	7

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780
Azolla filiculoides																				
Callitriche obtusangula						1						1							1	
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum																				
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																			1	
Filamentous algae†	1																		1	
Hydrocharis morsus-ranae																				
Lemna gibba		1																		
Lemna miniscula		1																		
Lemna minor		1				1		1												
Lemna trisulca								1												
Myriophyllum aquaticum																				
Myriophyllum spicatum																				
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus	1																			1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii							1				1									
Ranunculus circinatus																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris							1				1									
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				1
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*		3			1	3													1	
Ranunculus sceleratus		1				1														
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	2	3	3	3	3	2	2	3	3	3	3	3	3	3	3	3	1	3	3	1
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																			1	
Veronica catenata																				
Grass dom (Agro/Alop)†			1						1						1		1			
Atriplex hastata				1		1			1	1		1	1	1				1		1
Aster tripolium																				
Carex acuta																				
Carex divisa									1											
Carex otrubae						1														
Chenopodium chenopodioides																		1	1	
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				
Juncus effusus																				
Juncus inflexus							1								1					
Juncus gerardii															1			1	1	1
Juncus maritima							1		1											
Lycopus europaeus		1				1														
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis									1			1								
Pulicaria dysenterica																				
Salicornia sp																		1		
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara																				
Spergularia marina																				
Spergularia media																		1		
Triglochin palustre																				
Scrub cover*																				
Ditch choked				1	1						1		1	1		1		1	1	
Ditch dry (N = near dry)			1	1	1				1	1		1	1	1	N	1	1	1		1
Width (nearest metre)	3	4	3	3	4		3	1	1	3	3	1	4	3	3	4	2	5	7	5
Land use north / east	P	P	P	P	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P
Land use south / west	P	P	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)	72	16				19	65	25			61				118					

Ditch Number	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780
Number of aquatic species	1	3	0	0	0	2	2	2	0	0	2	1	0	0	0	0	0	0	1	1
Number of emergent species	1	3	1	1	2	3	1	1	1	1	1	1	1	1	1	1	1	1	3	2
Number of bank species	0	1	0	1	0	3	2	0	4	1	0	2	1	1	2	0	0	5	2	2
Total number of species	2	7	1	2	2	8	5	3	5	2	3	4	2	2	3	1	1	6	6	5

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800
Azolla filiculoides																				
Callitriche obtusangula													1	1						
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum									1									1		1
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†										1								1		
Filamentous algae†														1	1			1		
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor							1											1		
Lemna trisulca																				
Myriophyllum aquaticum																				
Myriophyllum spicatum																				
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus			1						1	1					1				1	
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii			1						1											1
Ranunculus circinatus																				
Ranunculus trichophyllus																			1	
Ranunculus seedling													1			1				
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*				1				1												
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	3	3	3	1	3	3	3	3	3	2	3	2	3	3	2	3	3	3	1	3
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†						1					1			1						
Atriplex hastata	1			1			1	1		1		1			1		1	1	1	1
Aster tripolium																				
Carex acuta																				
Carex divisa																				
Carex otrubae																				
Chenopodium chenopodioides						1					1						1			
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima																				1
Juncus effusus																				
Juncus inflexus				1		1														
Juncus gerardii			1							1					1					
Juncus maritima			1						1											
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis				1		1		1		1										
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara																				
Spergularia marina																				
Spergularia media																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked	1	1			1									1						
Ditch dry (N = near dry)	1			1		1		1			1	1	1		N	1				
Width (nearest metre)	1	1	6	1	1	20	4	3	2	15	15	2	1	2	3	3	4	3	6	4
Land use north / east	P	P	P	P	P	P	U	P	P	P	P	P	P	P	P	P	P	P	P	P
Land use south / west	P	P	P	P	P	P	U	P	P	P	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)		74	103		97		51		74	64				77	82		95	90	95	77

Ditch Number	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800
Number of aquatic species	0	0	2	0	0	0	1	0	3	1	0	0	2	1	1	1	0	2	2	2
Number of emergent species	1	1	1	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
Number of bank species	1	0	2	3	0	3	1	2	1	3	1	1	0	0	2	0	2	1	1	2
Total number of species	2	1	5	5	1	4	3	4	5	5	2	2	3	2	4	2	3	4	4	5

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum																				
Chara sp																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†			1				1	1				1	1	D	D		D		1	D
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor																1				1
Lemna trisulca																				1
Myriophyllum aquaticum																				
Myriophyllum spicatum																			1	
Nymphaea alba																				
Potamogeton crispus																				
Potamogeton pectinatus			1					1				1	1						1	
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus circinatus																				
Ranunculus trichophyllus																				
Ranunculus seedling					1											1	1	1		1
Riccia fluitans																				
Stratiotes aloides																				
Zannichellia palustris													1							
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Phragmites australis*																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Sagittaria sagittifolia																				
Scirpus lacustris																				
Scirpus maritimus*	3	2	2	3	2	2	3	3	2	3	3	2	2	3	2	3	3	3	2	2
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica catenata																				
Grass dom (Agro/Alop)†											1									
Atriplex hastata	1						1	1							1		1			
Aster tripolium																				
Carex acuta																				
Carex divisa																				
Carex otrubae																				
Chenopodium chenopodioides																				
Crassula helmsii																				
Epilobium hirsutum																				
Eupatorium cannabinum																				
Galium palustre																				
Glaux maritima														1					1	
Juncus effusus																				
Juncus inflexus																				
Juncus gerardii		1					1	1		1			1	1						1
Juncus maritima	1						1	1			1									
Lycopus europaeus																				
Mentha aquatica																				
Myosotis cespitosa																				
Oenanthe lachenalii																				
Polypogon monspeliensis										1									1	
Pulicaria dysenterica																				
Salicornia sp																				
Samolus valerandi																				
Scutellaria galericulata																				
Solanum dulcamara																				
Spergularia marina			1																	
Spergularia media																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked										1										
Ditch dry (N = near dry)	1	1			1	1			1	1				N	N	1	N	1		
Width (nearest metre)	3	1	25	4	2	2	4	4	2	4	3	30	3	3	3	3	3	3	15	3
Land use north / east	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Land use south / west	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)			45	90			118	90			98	50	95	99	130		110		63	58

Ditch Number	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820
Number of aquatic species	0	0	1	0	1	0	0	1	0	0	0	1	2	0	0	2	1	1	2	3
Number of emergent species	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of bank species	2	1	1	0	0	0	3	3	0	2	1	0	1	2	1	0	1	0	2	1
Total number of species	3	2	3	1	2	1	4	5	1	3	2	2	4	3	2	3	3	2	5	5

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

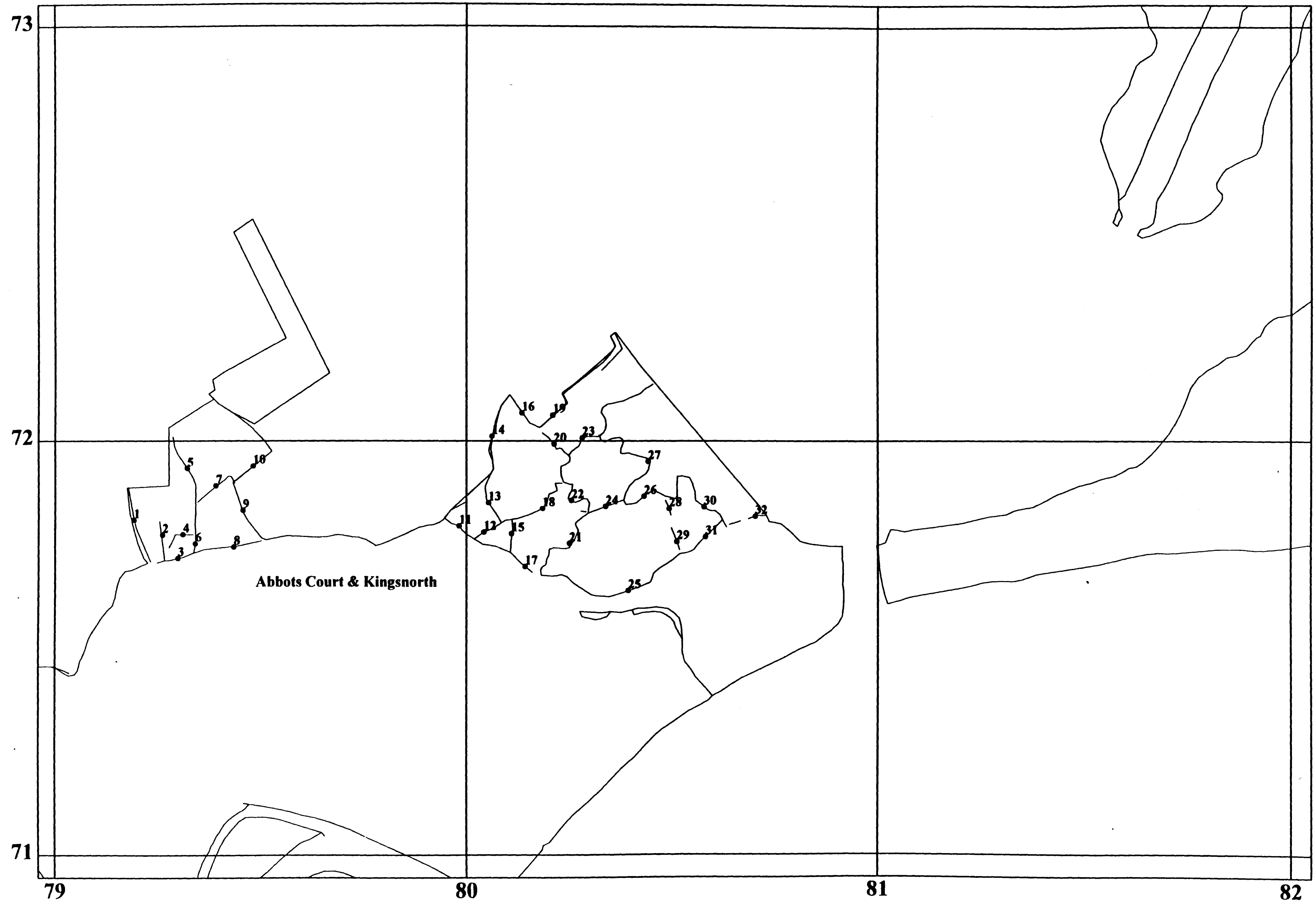
South Thames Estuary & Marshes SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	821	822	823	824	825	826	827	828	829	830	831	832	Total	%
Azolla filiculoides													68	8.2
Callitriche obtusangula													183	22.0
Callitriche stagnalis/spp													5	0.6
Ceratophyllum demersum													26	3.1
Ceratophyllum submersum			1		1					1	1		258	31.0
Chara sp													1	0.1
Elodea nuttallii													47	5.6
Enteromorpha sp†					1			1					83	10.0
Filamentous algae†	1	1	1	1	1	1	1	1	1	1	1	1	291	35.0
Hydrocharis morsus-ranae													23	2.8
Lemna gibba													136	16.3
Lemna miniscula													19	2.3
Lemna minor	1												355	42.7
Lemna trisulca	1										1		394	47.4
Myriophyllum aquaticum													1	0.1
Myriophyllum spicatum									1				46	5.5
Nymphaea alba													2	0.2
Potamogeton crispus													17	2.0
Potamogeton pectinatus	1	1	1	1	1		1		1		1		181	21.8
Potamogeton pusillus/berchtoldii													20	2.4
Ranunculus baudotii													109	13.1
Ranunculus circinatus													1	0.1
Ranunculus trichophyllus		1											77	9.3
Ranunculus seedling			1		1								15	1.8
Riccia fluitans													3	0.4
Stratiotes aloides													2	0.2
Zannichellia palustris		1	1		1								16	1.9
Alisma plantago-aquatica													53	6.4
Apium nodiflorum													22	2.6
Berula erecta													237	28.5
Butomus umbellatus													8	1.0
Carex riparia													8	1.0
Eleocharis palustris													317	38.1
Equisetum fluviatile													2	0.2
Glyceria fluitans													84	10.1
Glyceria maxima													5	0.6
Hippuris vulgaris													16	1.9
Iris pseudacorus													2	0.2
Juncus articulatus													1	0.1
Nasturtium officinale agg													141	16.9
Oenanthe aquatica													2	0.2
Oenanthe fistulosa													160	19.2
Phragmites australis*													175	21.0
Ranunculus sceleratus													86	10.3
Rumex hydrolapathum													35	4.2
Sagittaria sagittifolia													1	0.1
Scirpus lacustris													10	1.2
Scirpus maritimus*	2	3	3	3	2	3	3	3	3	3	3	3	597	71.8
Sparganium erectum													98	11.8
Typha angustifolia													49	5.9
Typha latifolia													24	2.9
Veronica catenata													32	3.8
Grass dom (Agro/Alop)†													37	4.4
Atriplex hastata	1	1					1	1					97	11.7
Aster tripolium													1	0.1
Carex acuta													2	0.2
Carex divisa						1					1		238	28.6
Carex otrubae													253	30.4
Chenopodium chenopodioides													12	1.4
Crassula helmsii													3	0.4
Epilobium hirsutum													27	3.2
Eupatorium cannabinum													1	0.1
Galium palustre													34	4.1
Glaux maritima													5	0.6
Juncus effusus													22	2.6
Juncus inflexus													346	41.6
Juncus gerardii		1	1		1		1						53	6.4
Juncus maritima								1		1			16	1.9
Lycopus europaeus													46	5.5
Mentha aquatica													3	0.4
Myosotis cespitosa													32	3.8
Oenanthe lachenalii						1					1		21	2.5
Polypogon monspeliensis				1						1			14	1.7
Pulicaria dysenterica													3	0.4
Salicornia sp													1	0.1
Samolus valerandi													16	1.9
Scutellaria galericulata													9	1.1
Solanum dulcamara													96	11.5
Spergularia marina													3	0.4
Spergularia media													1	0.1
Triglochin palustre													5	0.6
Scrub cover*													184	22.1
Ditch choked													113	13.6
Ditch dry (N = near dry)						N							208	25.0
Width (nearest metre)	4	3	2	2	4	2	3	3	3	3	2	3		
Land use north / east	P	P	P	P	P	H	P	H	P	H	P	H		
Land use south / west	P	P	P	P	P	H	P	H	P	H	P	H		
Conductivity (µScm x 100)	67	94	97	75	90	82	92	82	78	103	80	66		

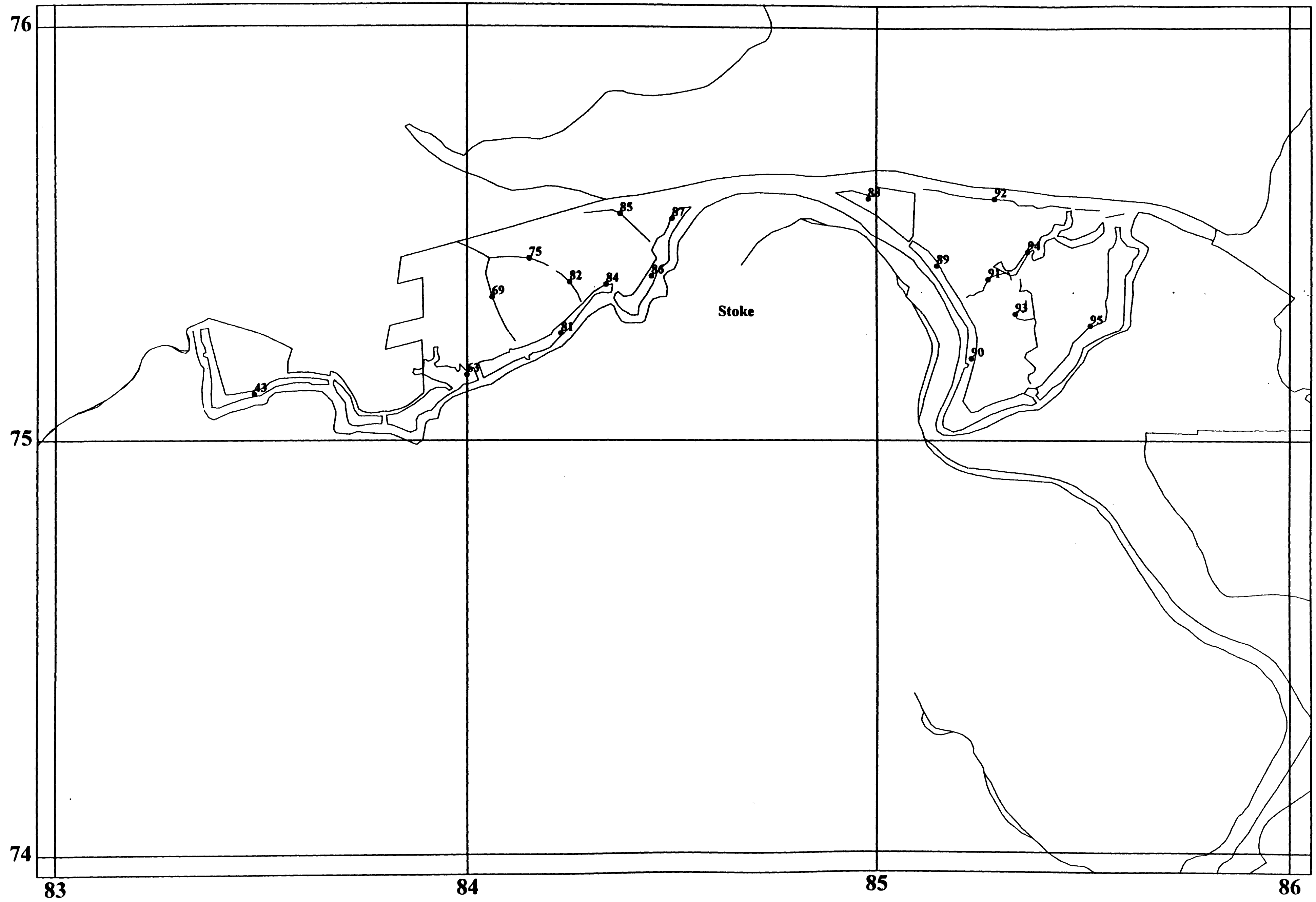
Ditch Number	821	822	823	824	825	826	827	828	829	830	831	832	Total	Average
Number of aquatic species	3	3	4	1	4	0	1	0	2	1	3	0	25	2.4
Number of emergent species	1	1	1	1	1	1	1	1	1	1	1	1	25	2.6
Number of bank species	1	2	1	1	1	2	2	2	0	2	2	0	28	1.6
Total number of species	5	6	6	3	6	3	4	3	3	4	6	1	78	6.6

† Excluded from totals
D = dominant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

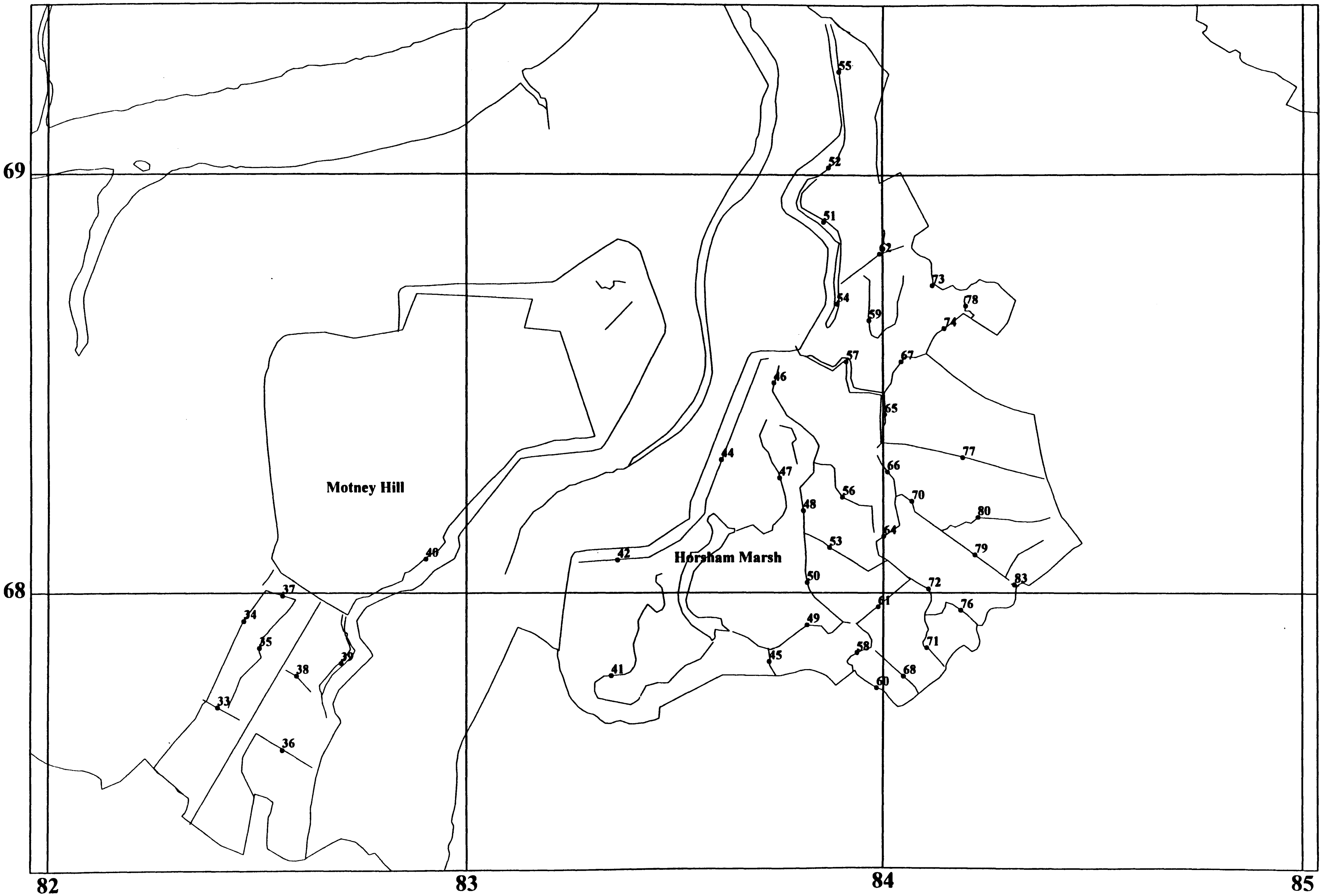
Medway Estuary & Marshes SSSI - Ditch Numbering (East to West)



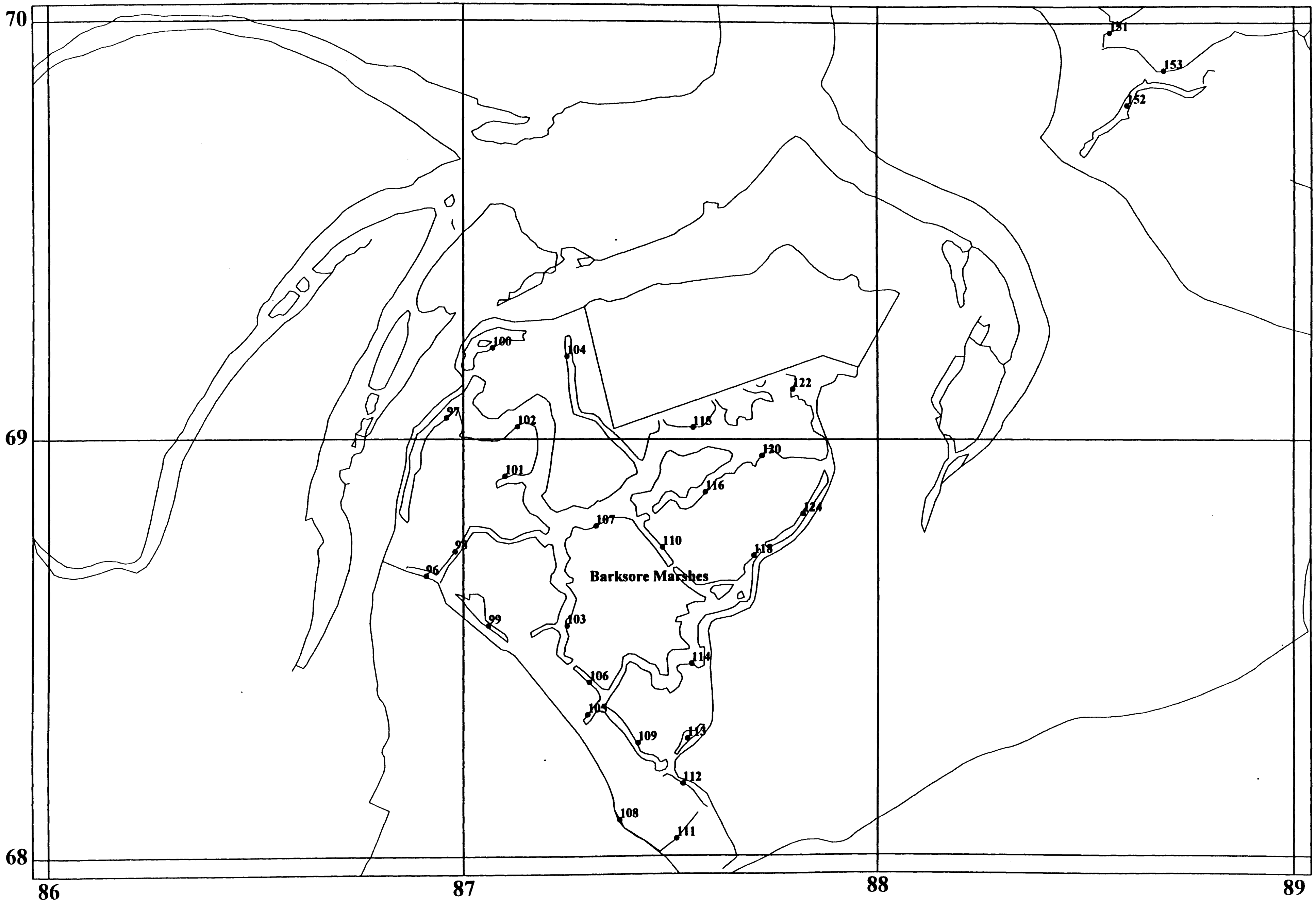
Medway Estuary & Marshes SSSI - Ditch Numbering (East to West)



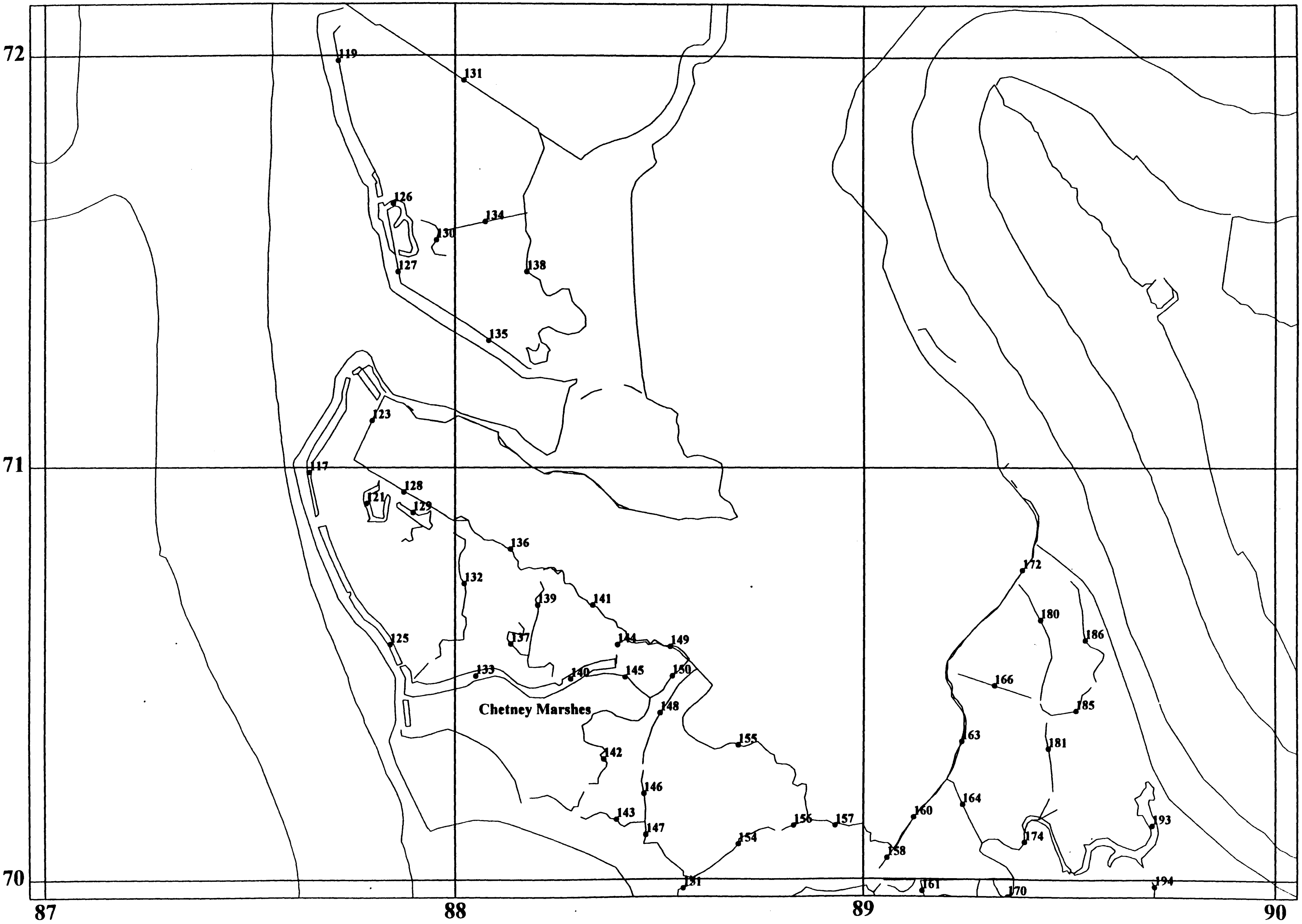
Medway Estuary & Marshes SSSI - Ditch Numbering (East to West)



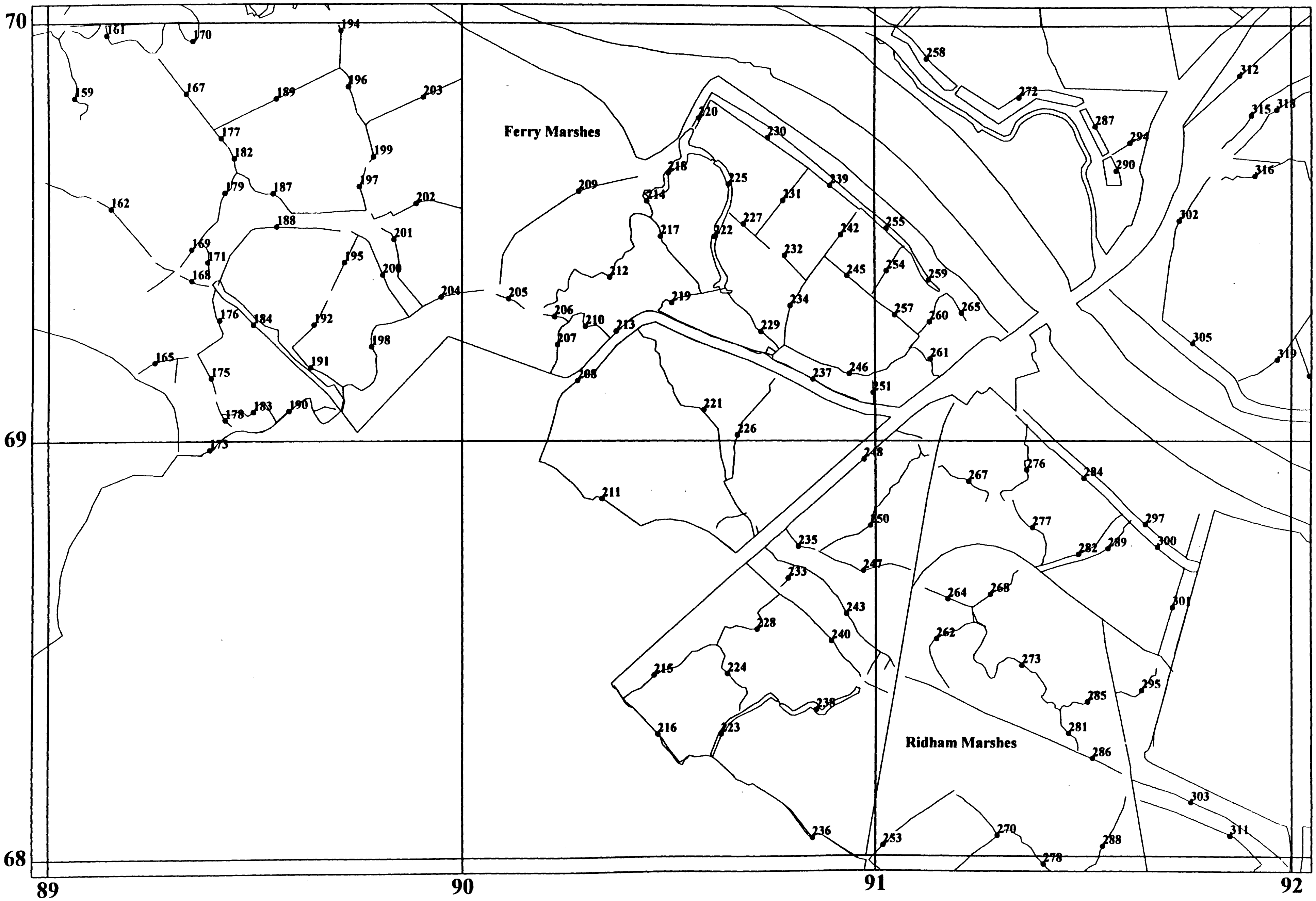
Medway Estuary & Marshes SSSI - Ditch Numbering (East to West)



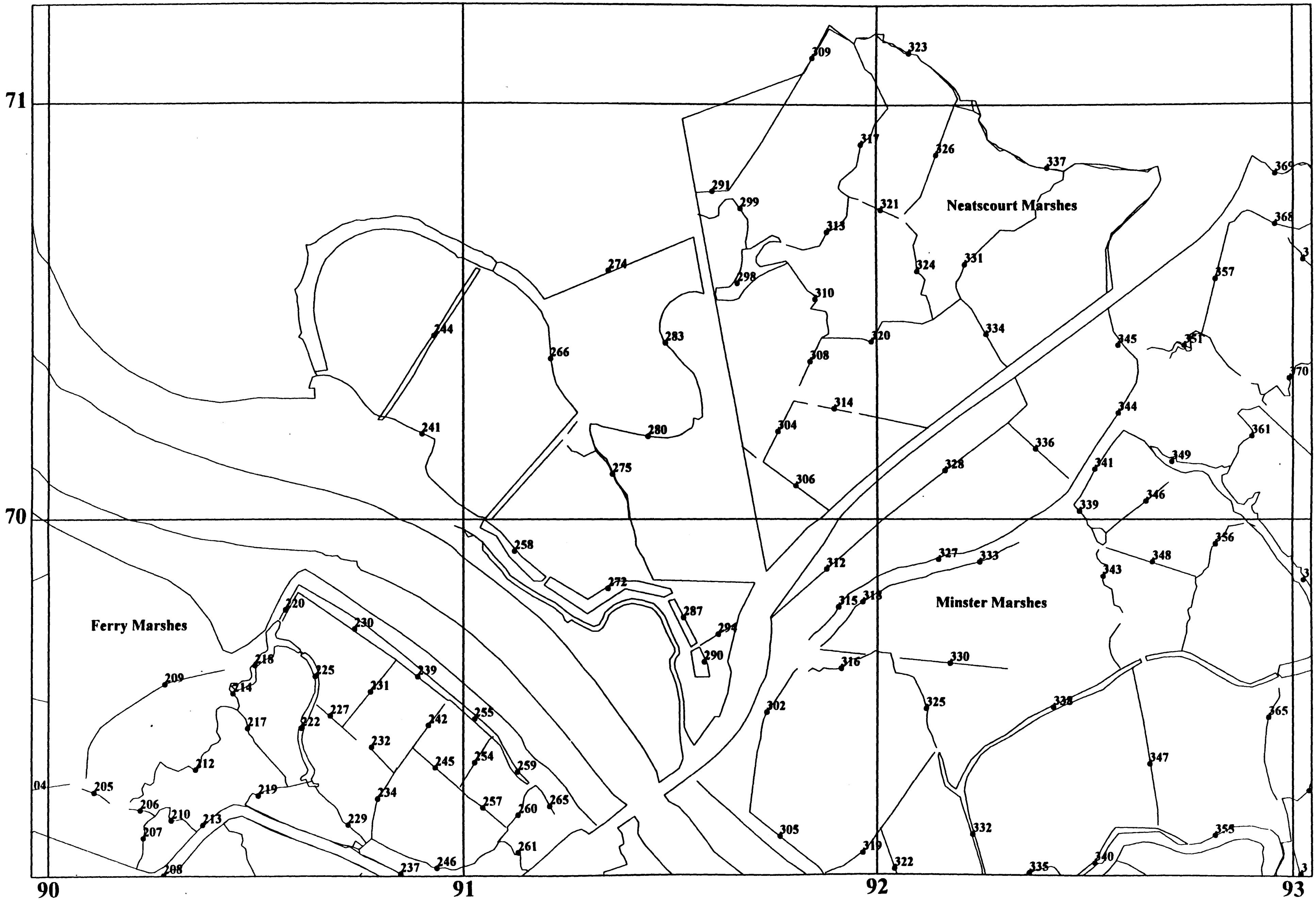
Medway Estuary & Marshes SSSI - Ditch Numbering (East to West)



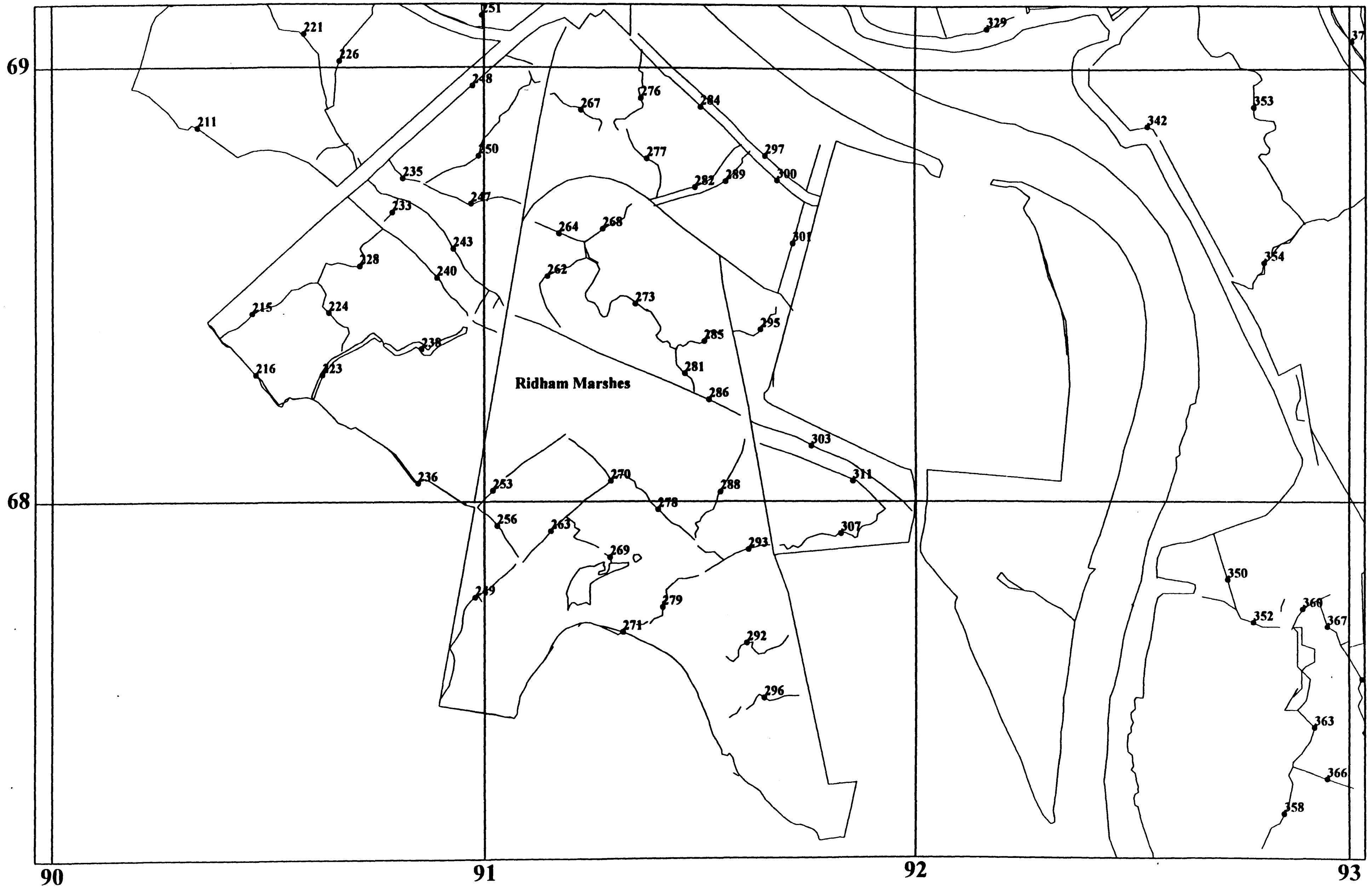
Medway Estuary & Marshes SSSI - Ditch Numbering (East to West)



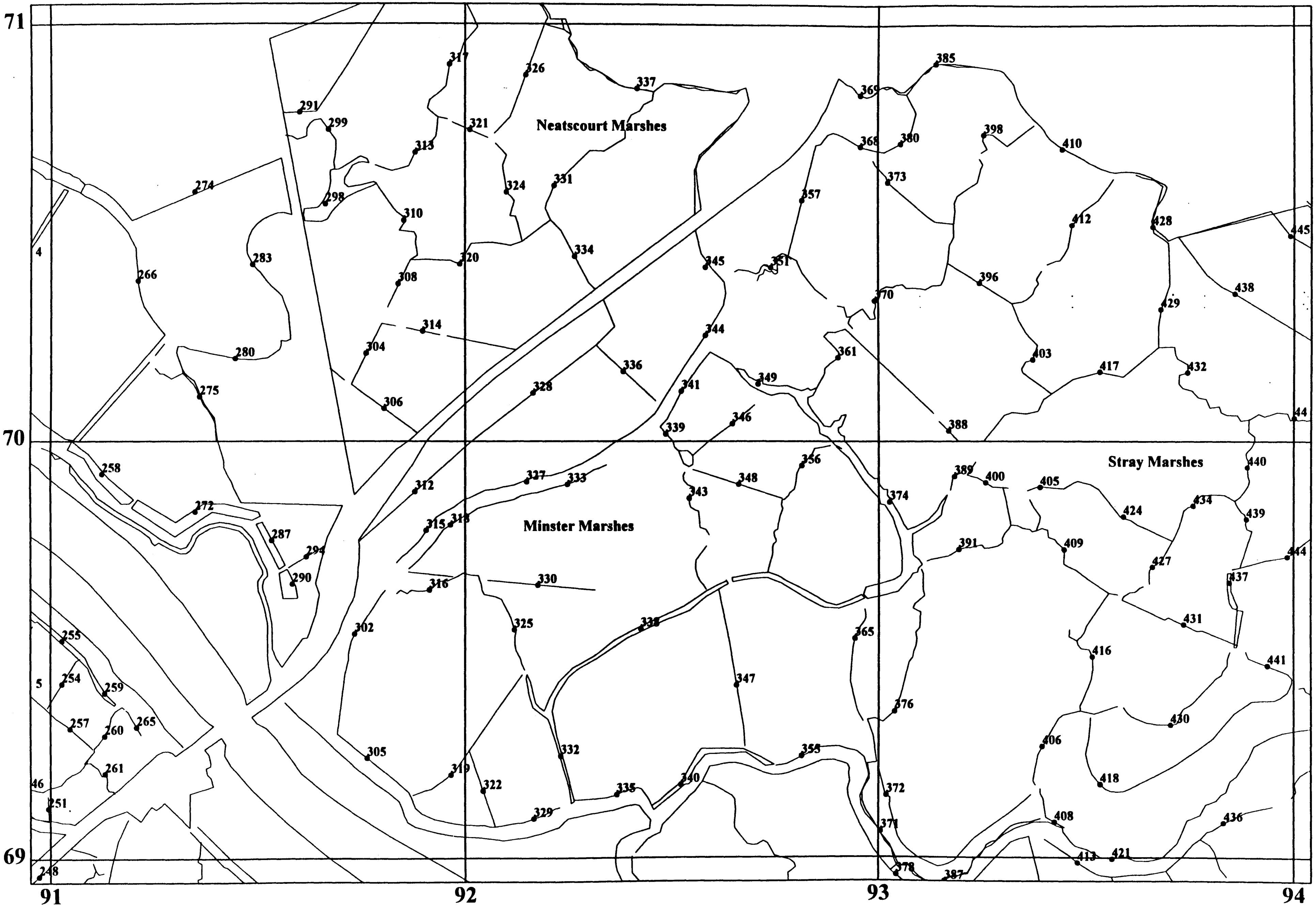
Medway Estuary & Marshes SSSI - Ditch Numbering (East to West)



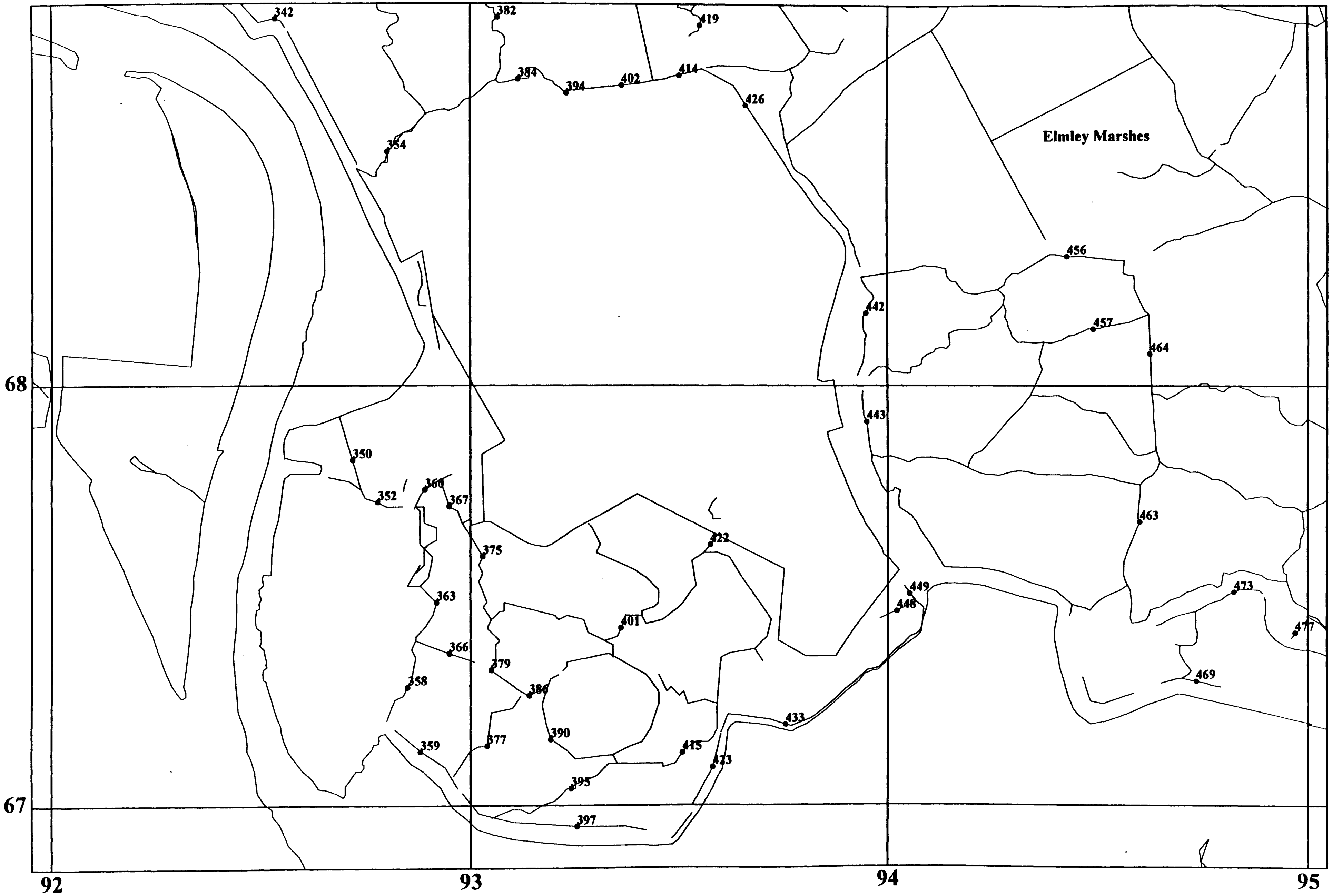
The Swale SSSI - Ditch Numbering (East to West)



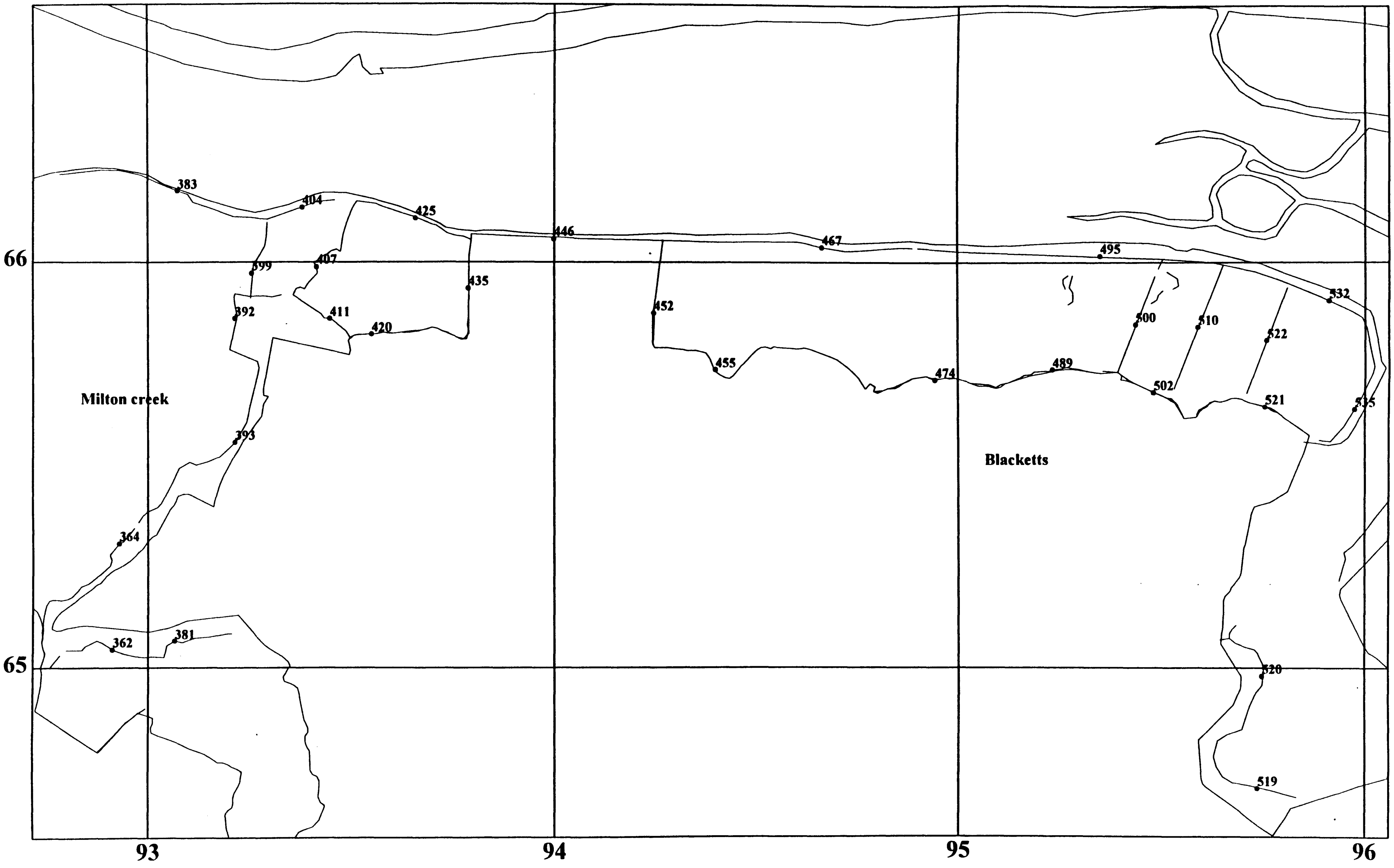
The Swale SSSI - Ditch Numbering (East to West)



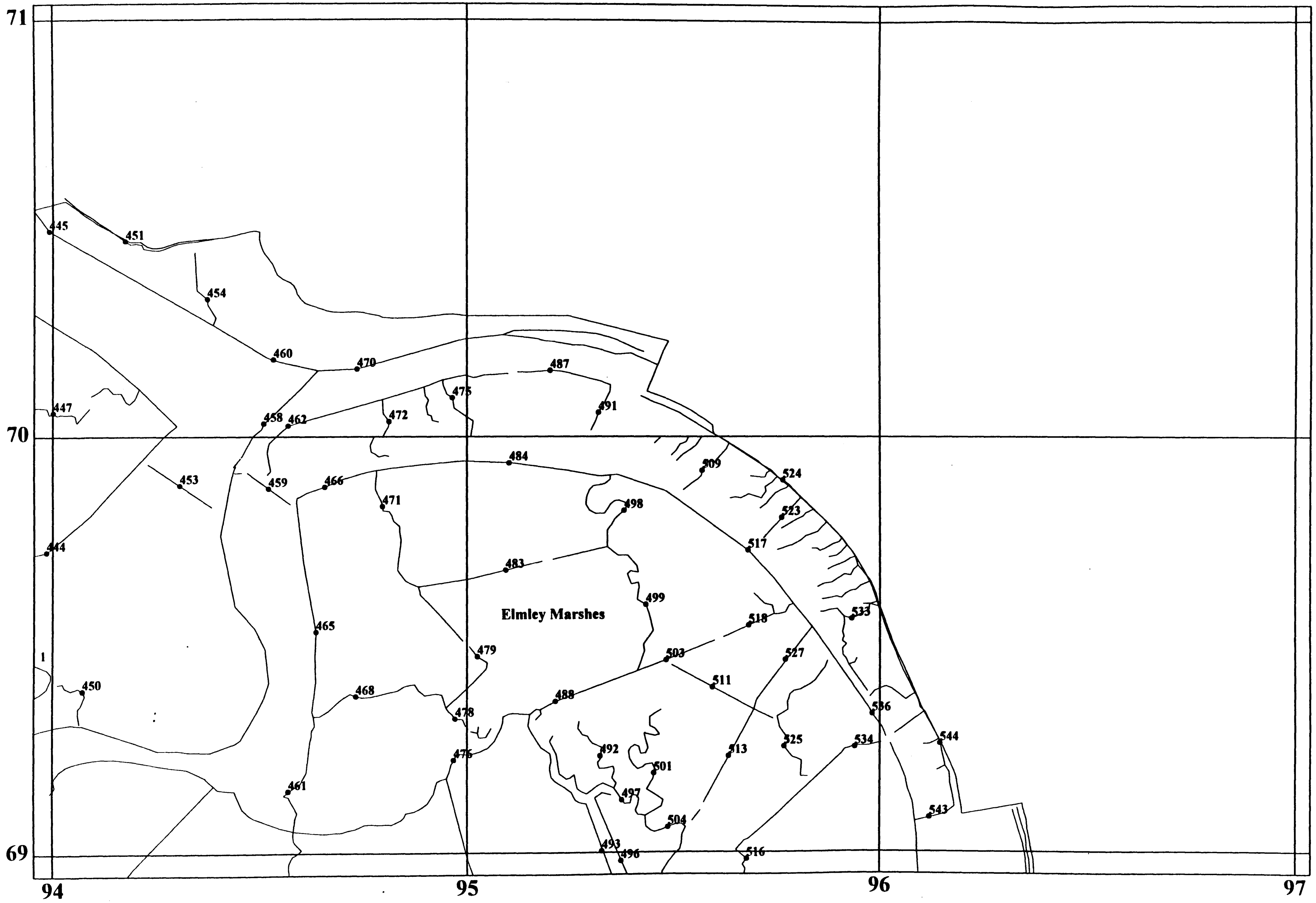
The Swale SSSI - Ditch Numbering (East to West)



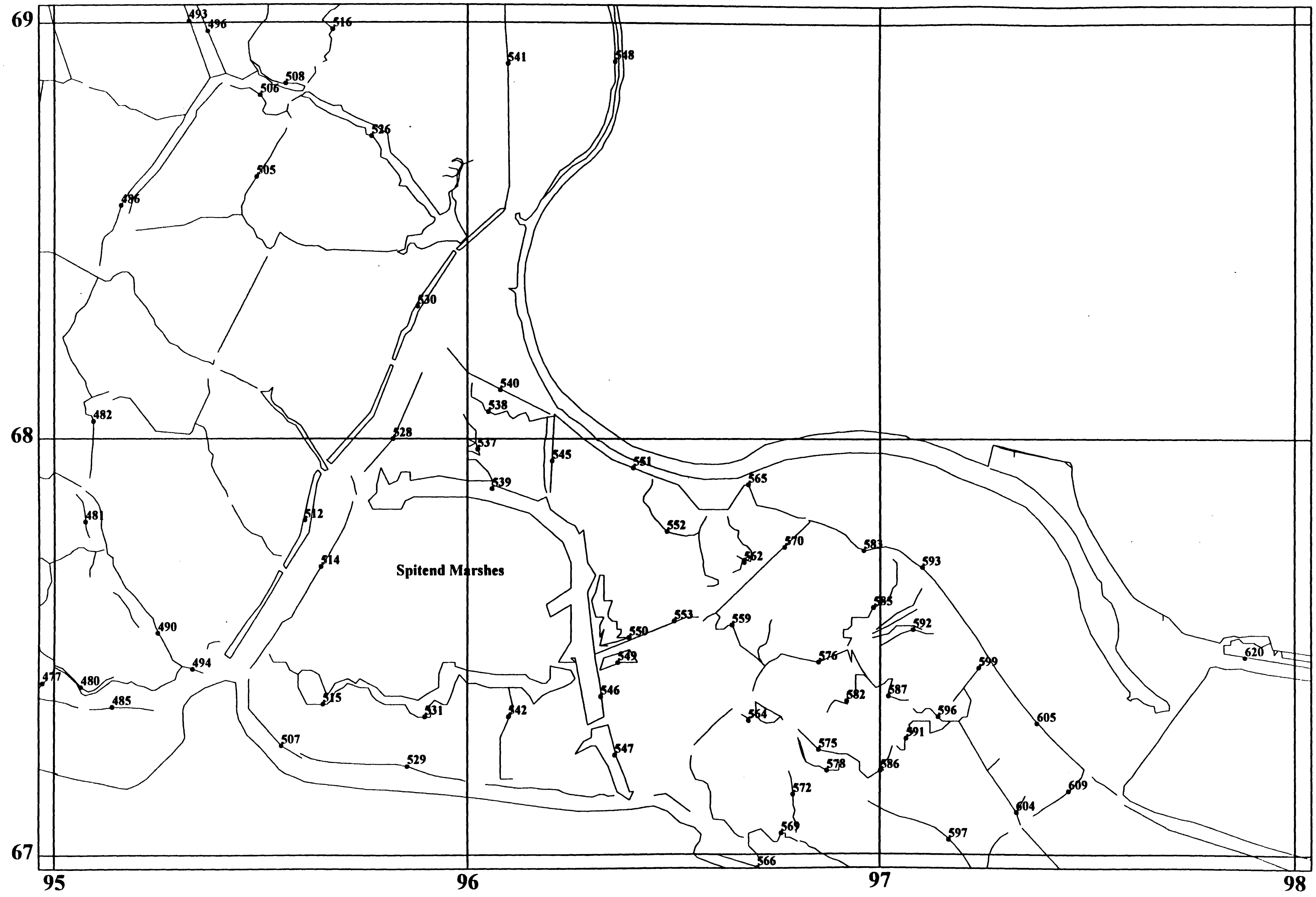
The Swale SSSI - Ditch Numbering (East to West)



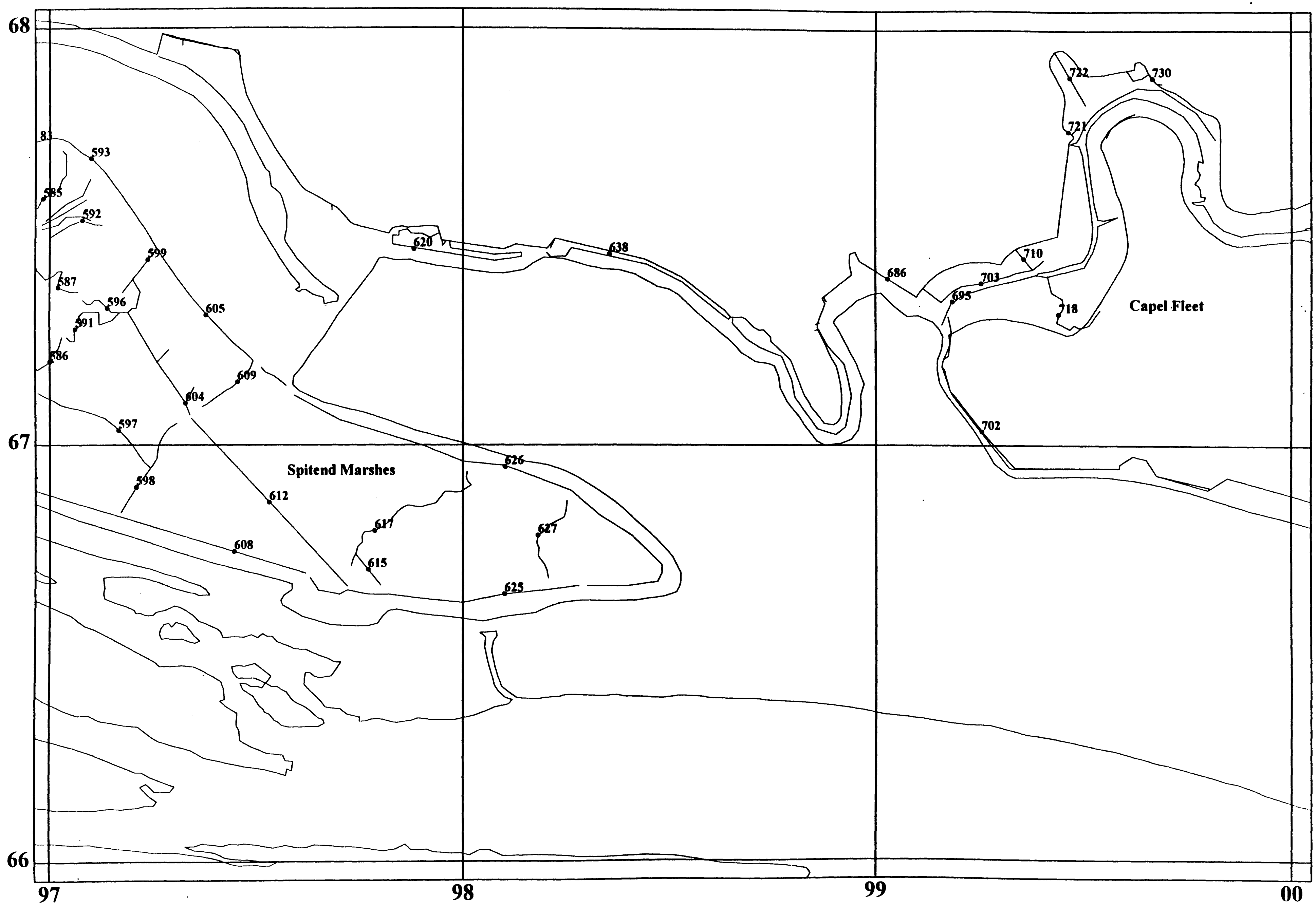
The Swale SSSI - Ditch Numbering (East to West)



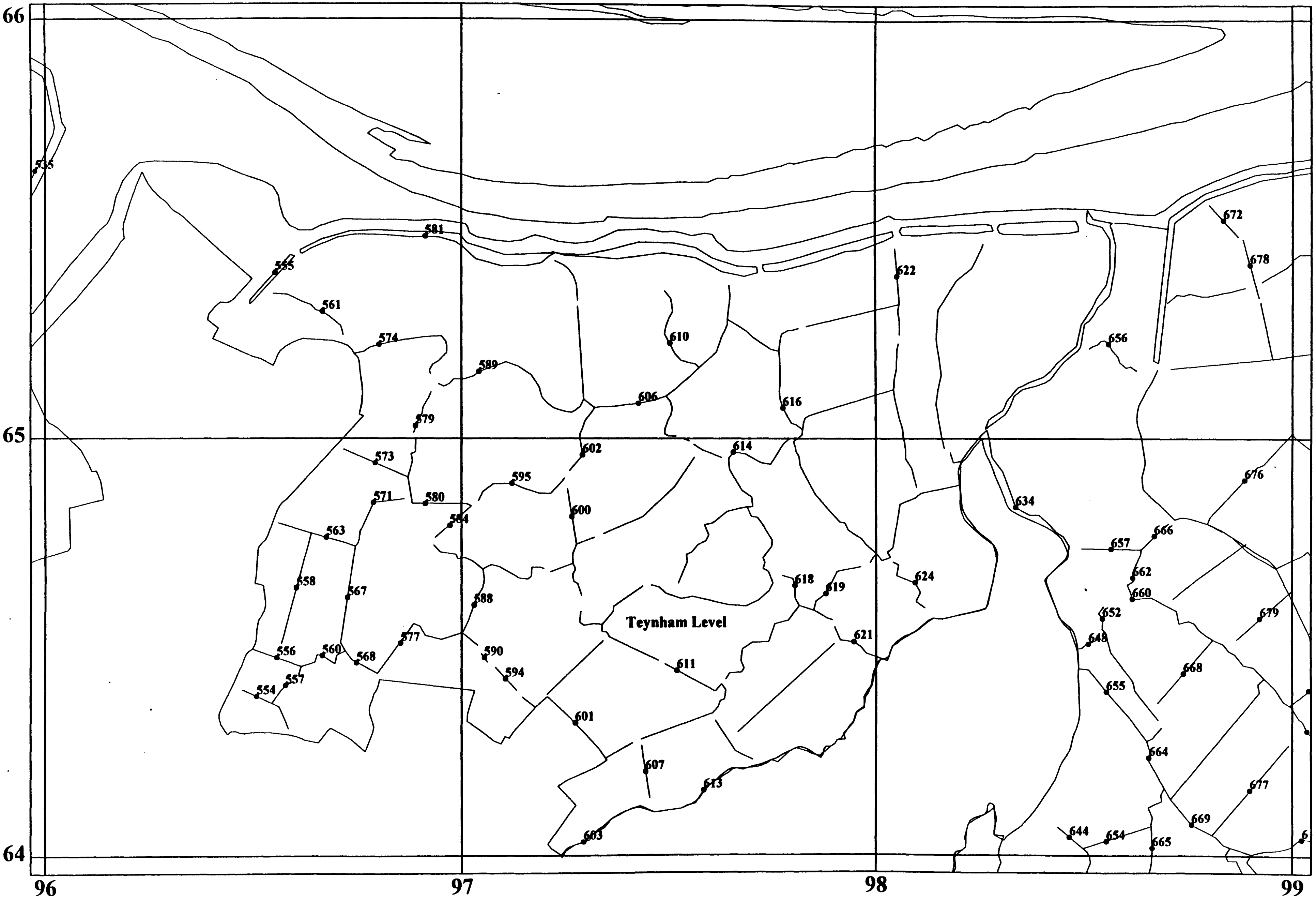
The Swale SSSI - Ditch Numbering (East to West)



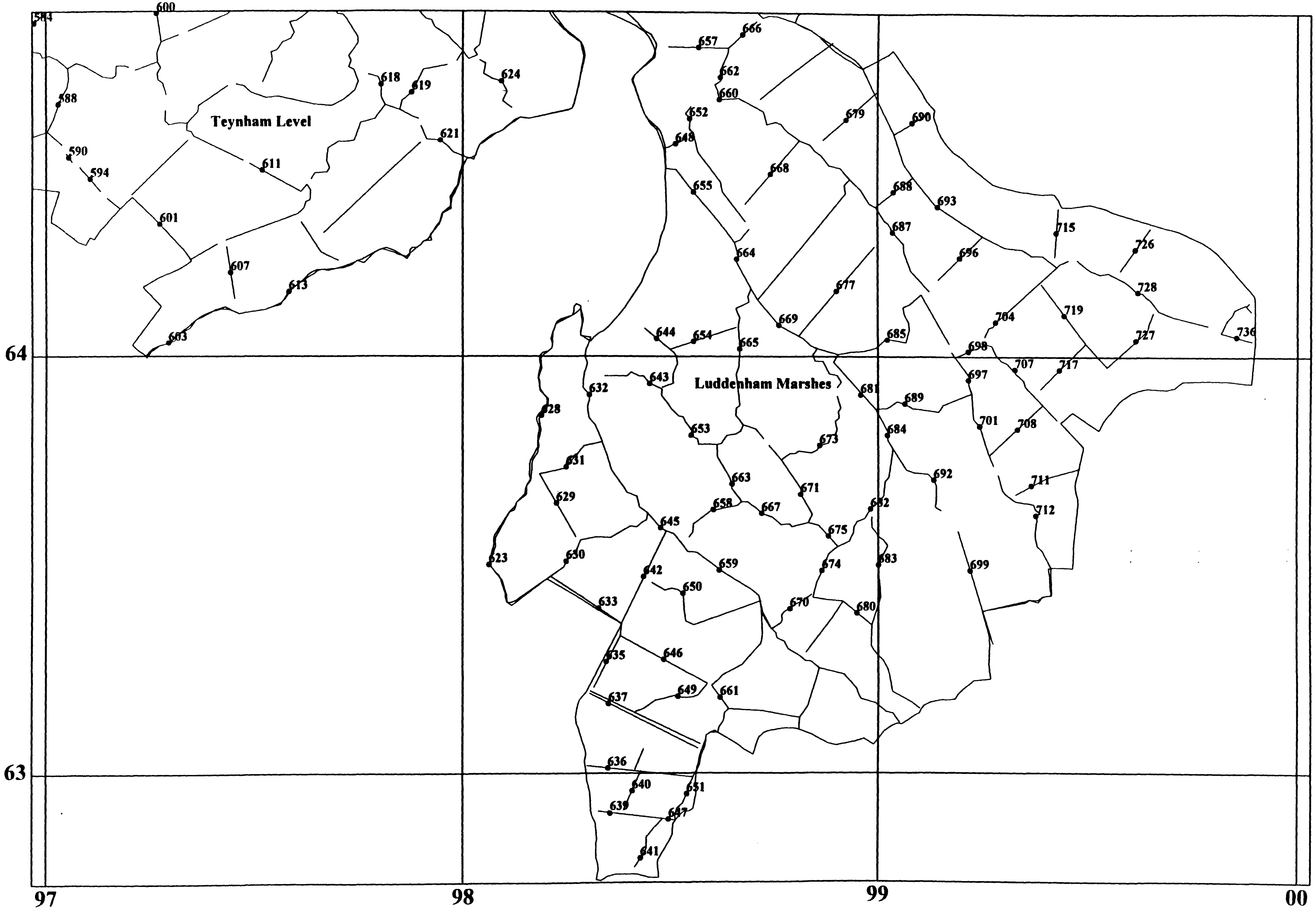
The Swale SSSI - Ditch Numbering (East to West)



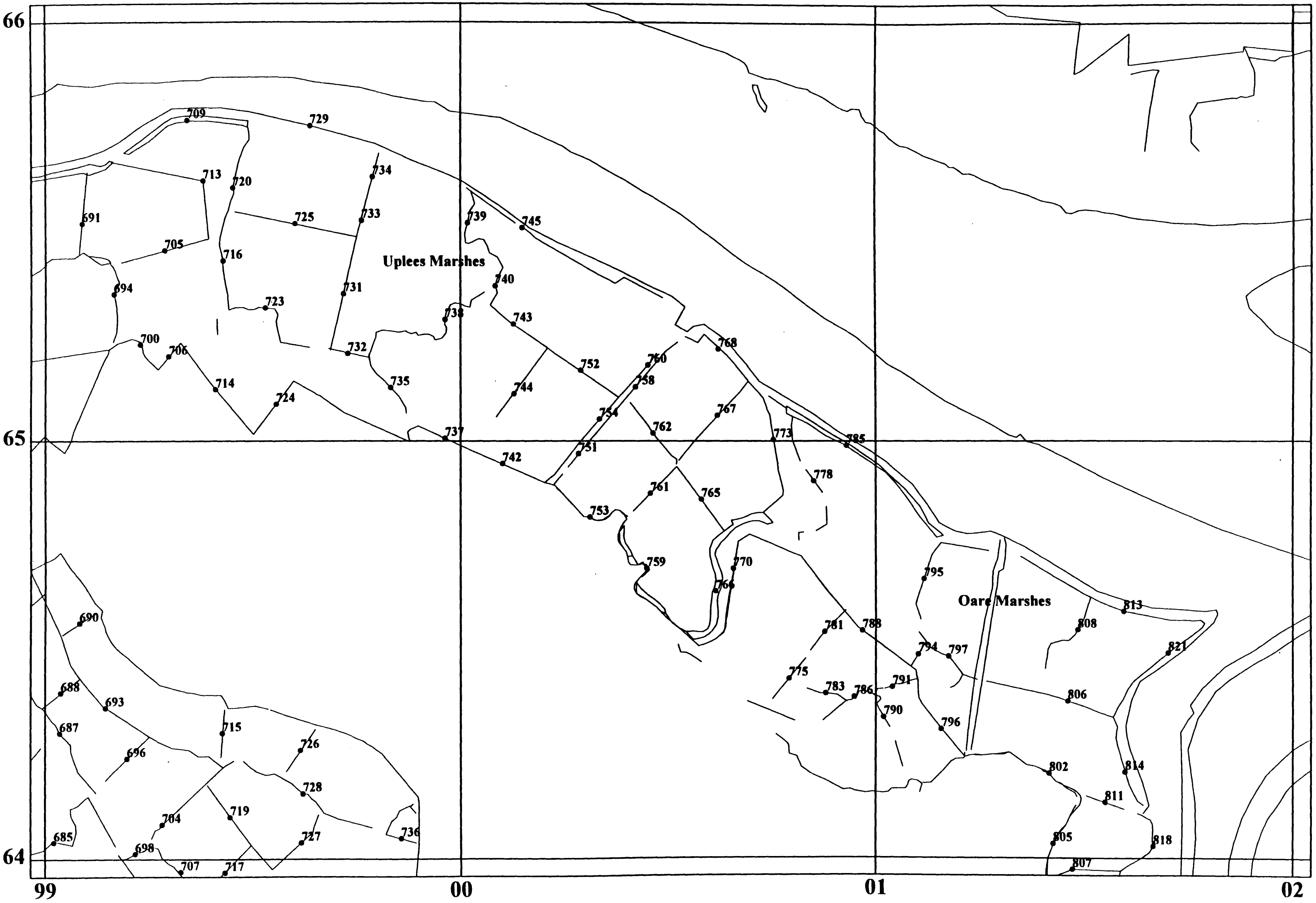
The Swale SSSI - Ditch Numbering (East to West)



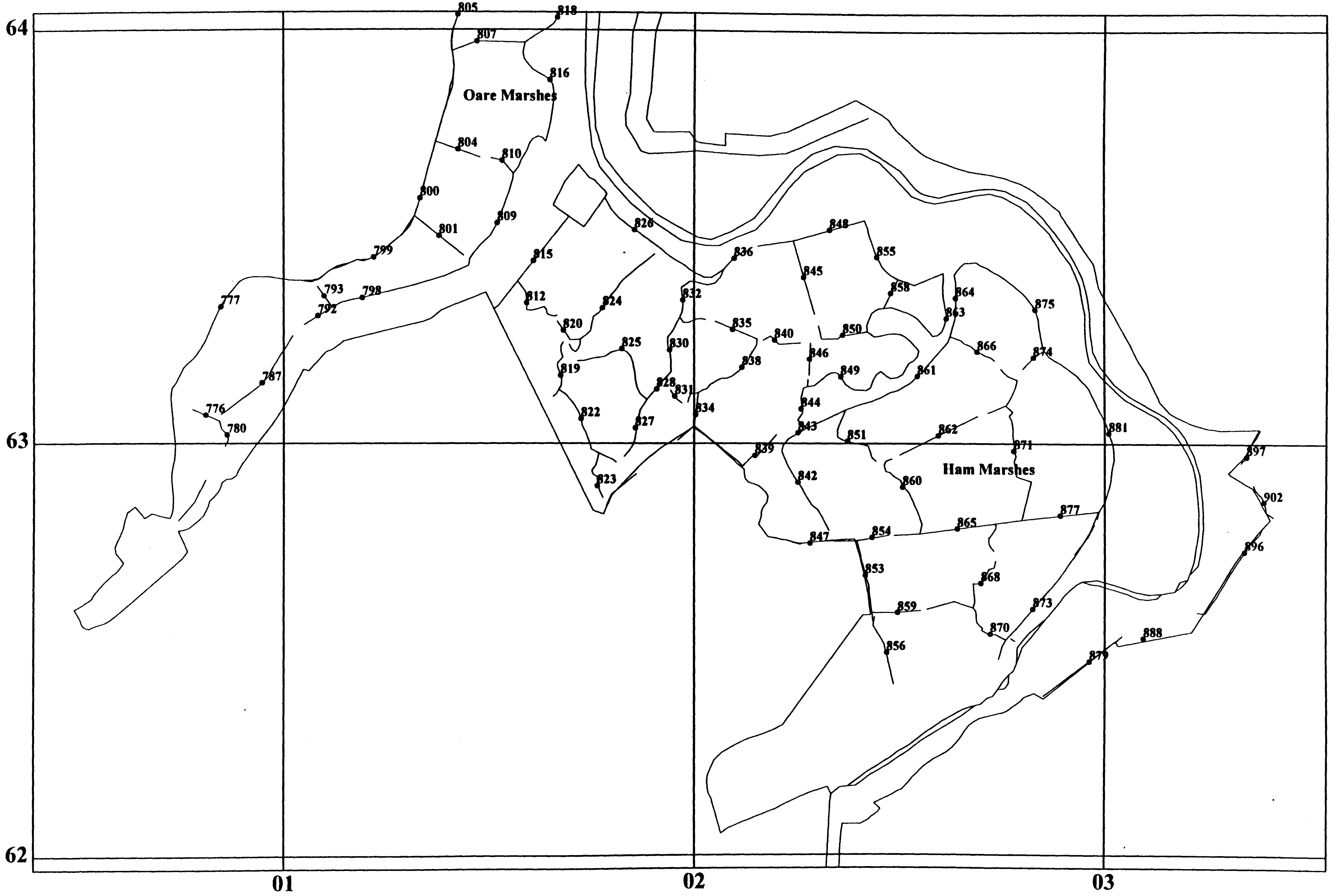
The Swale SSSI - Ditch Numbering (East to West)



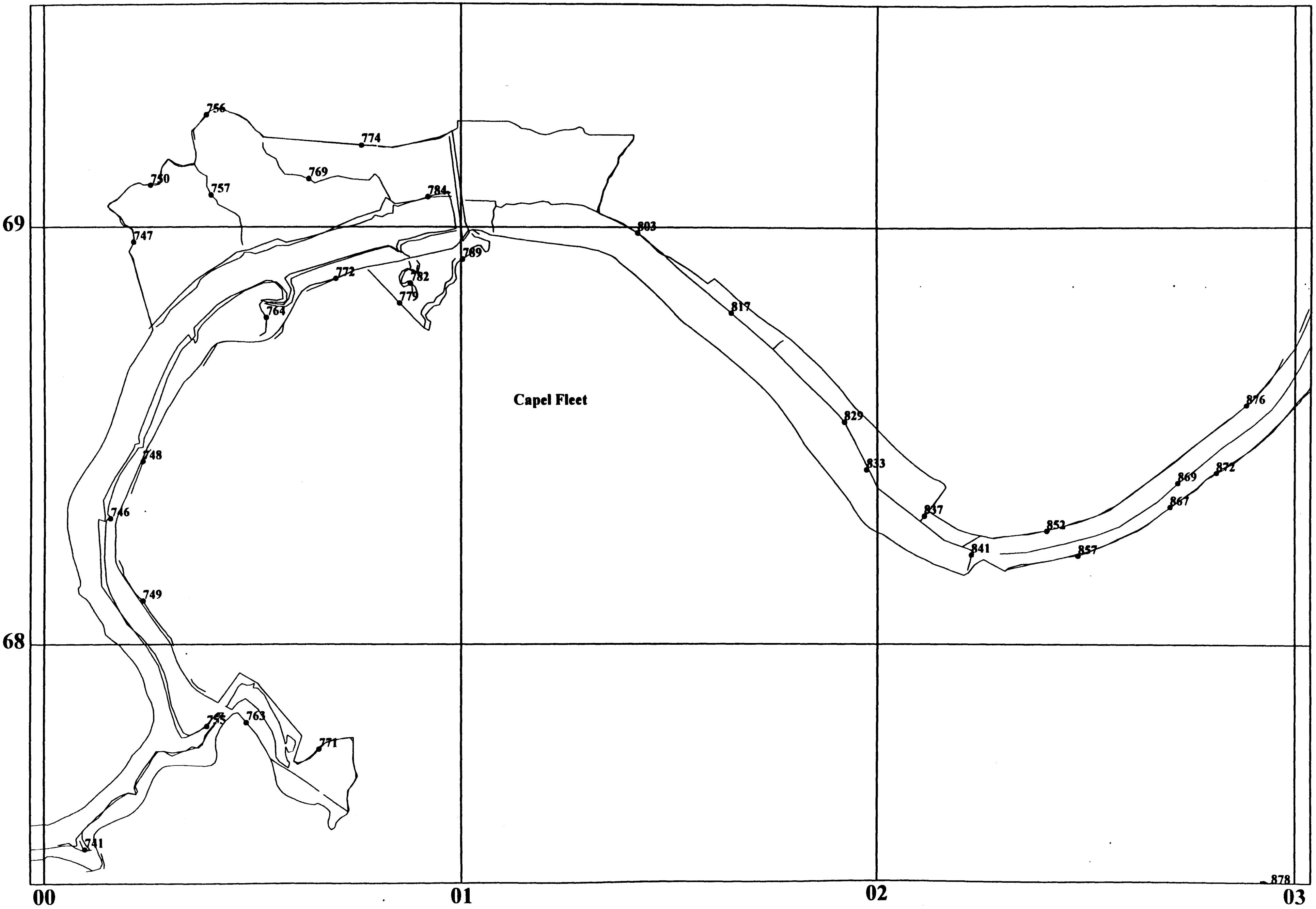
The Swale SSSI - Ditch Numbering (East to West)



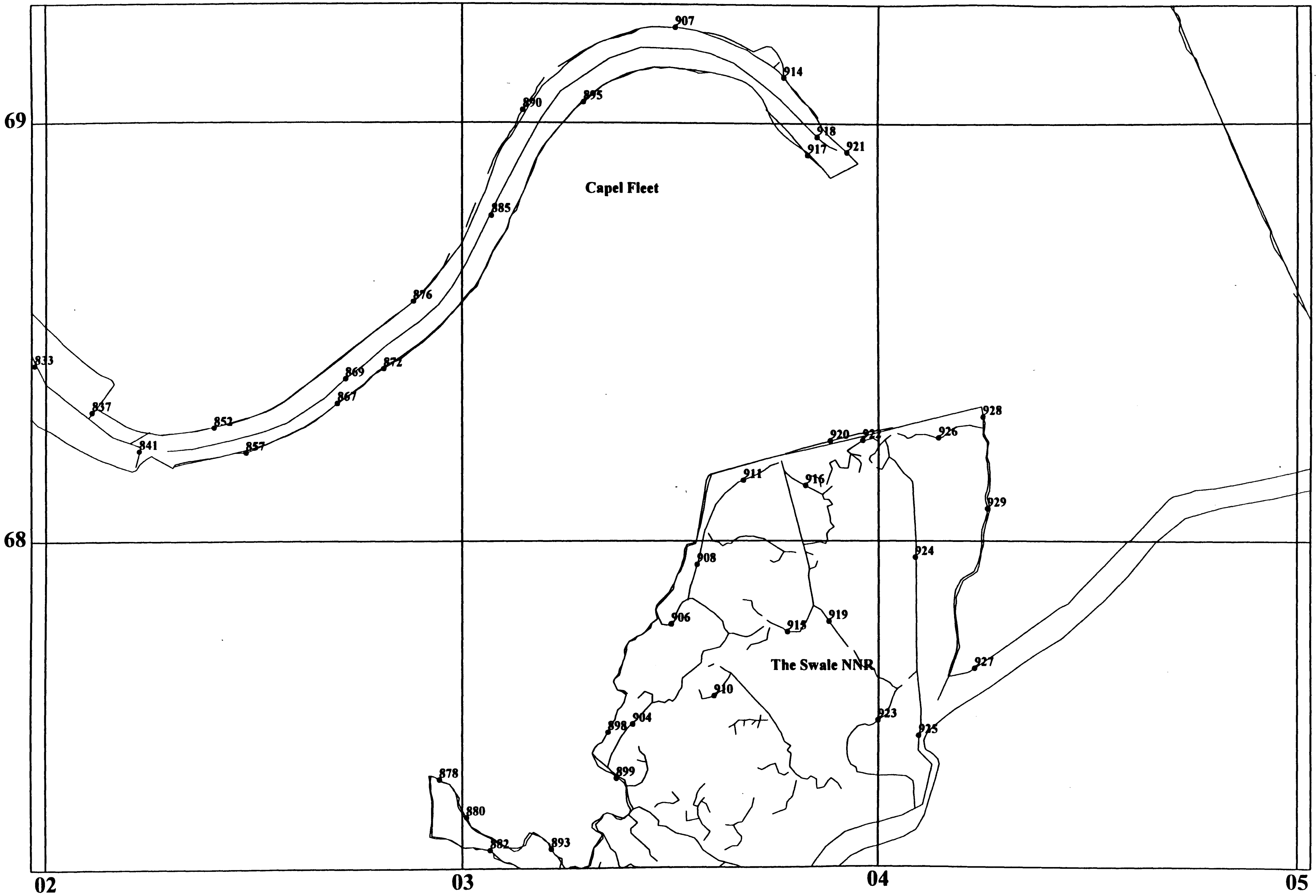
The Swale SSSI - Ditch Numbering (East to West)



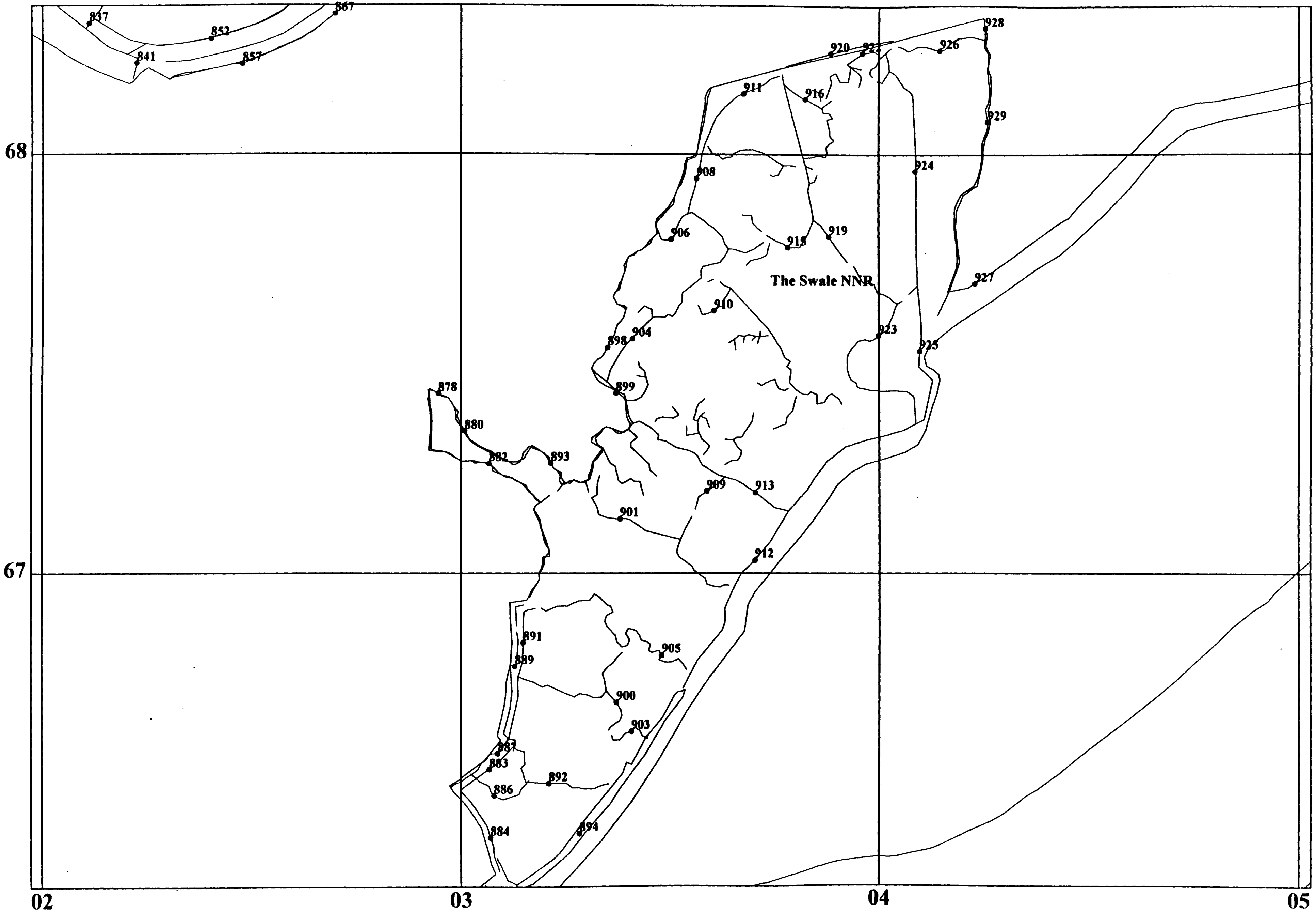
The Swale SSSI - Ditch Numbering (East to West)



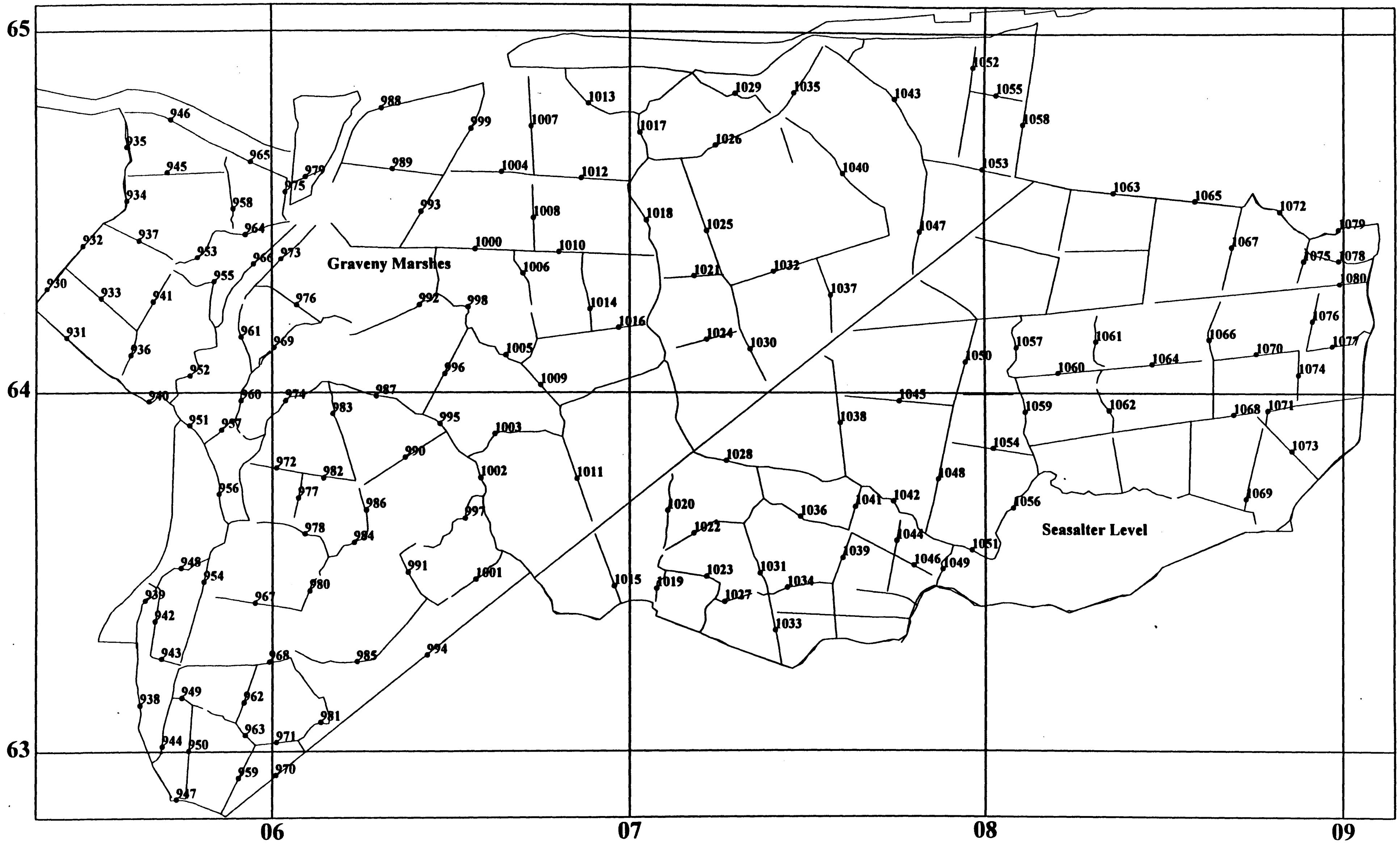
The Swale SSSI - Ditch Numbering (East to West)



The Swale SSSI - Ditch Numbering (East to West)



The Swale SSSI - Ditch Numbering (East to West)



Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum																				
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†																	1			
Filamentous algae†		1																		
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor																				
Lemna trisulca																				
Myriophyllum spicatum																	1			
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus								1									1			
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																			1	
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*	3	2	3			3	3										1			
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris											1						1			
Scirpus maritimus*		2	1	3	1			2			2	2	1		3	3	2	1	3	2
Sparganium erectum																				
Typha angustifolia											1					1				
Typha latifolia										1										
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†														1						
Atriplex hastata	1	1	1	1	1	1	1										1			
Aster tripolium		1		1	1	1	1				1									
Carex divisa			1					1	1											
Carex otrubae												1				1				1
Carex distans																				
Chenopodium chenopodioides													1							
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus													1	1				1		1
Juncus inflexus												1	1			1		1		
Juncus gerardii								1												
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.			1	1	1	1														
Samolus valerandi																				
Solanum dulcamara														1		1			1	
Spartina anglica																				
Spergularia marina						1														
Spergularia media																				
Sueda maritima			1																	
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*	1			1				2	3				1	2					2	
Ditch choked	1		1	1		1				1					1	1				
Ditch dry (N=near dry)				1							1	1	1	1	1	1		1	1	
Width (nearest metre)	2	6	4	3	5	8	8	10	3	3	1	2	1	2	3	2	4	2	2	4
land use north / east	P	P	P	P	P	P	P	P	P	P	P	P	P	A	P	A	P	P	A	P
land use south / west	U	P	U	P	P	P	P	U	A	A	U	P	P	P	P	P	U	P	P	P
Conductivity (µScm x 100)	17	199+	199+		199+	199+	199+	199+	116	114							199+			199+

Ditch Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Number of aquatic species	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0
Number of emergent species	1	2	2	1	1	1	1	1	0	1	3	1	1	0	1	2	3	1	2	1
Number of bank species	1	2	4	3	3	4	2	2	1	0	1	2	3	2	0	3	1	2	1	2
Total number of species	2	4	6	4	4	5	3	4	1	1	4	3	4	2	1	5	6	3	3	3

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Azolla filiculoides																				
Callitriche obtusangula														1	1					
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum																				
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†													1		1					
Filamentous algae†																				
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor													1	1						
Lemna trisulca													1	1	1					
Myriophyllum spicatum												1								
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus					1						1									
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia														1						
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*			3	1			3			3			3	2	3	3	3	3	3	2
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris	1	1			1						1	1								
Scirpus maritimus*	2	2	1	2	2	2	1	3	2	2	2	2								
Sparganium erectum																		1		
Typha angustifolia																				
Typha latifolia														D			1			
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata	1	1	1		1		1			1	1									
Aster tripolium												1								
Carex divisa																				
Carex otrubae																				
Carex distans																				
Chenopodium chenopodioides																				
Chenopodium rubrum						1			1	1										
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus	1																			
Juncus gerardii			1				1		1		1									
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																	1			
Spartina anglica																				
Spergularia marina						1	1			1										
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																				2
Ditch choked			1				1	1		1			1	1		1	1	1	1	
Ditch dry (N=near dry)								1	1			1		1					1	
Width (nearest metre)	6	5	6	5	10	7	6	3	1	10	10	4	4	4	4	3	4	4	6	10
land use north / east	P	P	P	P	P	P	P	P	P	P	P	P	U	U	U	U	A	U	U	U
land use south / west	P	P	P	P	U	P	P	P	P	P	U	U	U	U	U	U	U	U	U	U
Conductivity (µScm x 100)	199+	199+	199+	199+	199+	195	199+			199+	199+		9		8		8	13		

Ditch Number	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Number of aquatic species	0	0	0	0	1	0	0	0	0	0	1	1	2	3	2	0	0	0	0	0
Number of emergent species	2	2	2	2	2	1	2	1	1	2	2	2	1	3	1	1	2	2	1	1
Number of bank species	2	1	2	0	1	2	3	0	2	3	2	1	0	0	0	0	1	0	0	0
Total number of species	4	3	4	2	4	3	5	1	3	5	5	4	3	6	3	1	3	2	1	1

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Azolla filiculoides																				
Callitriche obtusangula																				1
Callitriche stagnalis/spp																				
Ceratophyllum demersum									1											
Ceratophyllum submersum																				
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†																				
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor									1											
Lemna trisulca									1											
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata			D																	
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus																				
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica									1									1		
Apium nodiflorum																				
Berula erecta									1											
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*		2	1					2			3		3			3		3		3
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*	3	1	1	1	1	2	1	2	1		1	1		1			1			
Sparganium erectum									1									1		
Typha angustifolia														1						
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†					1	1				1							1			
Atriplex hastata	1		1	1		1	1							1				1		
Aster tripolium																				
Carex divisa																				
Carex otrubae			1						1											1
Carex distans																				
Chenopodium chenopodioides		1		1			1							1					1	
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																		1		1
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus					1			1		1								1		1
Juncus inflexus	1				1				1									1		1
Juncus gerardii	1	1		1		1	1							1					1	
Juncus maritima		1																		
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica					1													1		1
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara			1																	1
Spartina anglica																				
Spergularia marina		1		1			1												1	
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*		2		2						1										2
Ditch choked	1				1			1			1	1	1			1				
Ditch dry (N=near dry)	1	1		1	1	1	1	1		1			1		1	1	1	1	1	1
Width (nearest metre)	5	6	15	6	1	1	5	1	2	1	10	10	1	10	10	2	1	1	3	2
land use north / east	P	P	U	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
land use south / west	P	P	U	P	P	P	P	P	P	P	U	U	P	P	U	P	P	P	P	P
Conductivity (µScm x 100)			16						14		115	132		144						

Ditch Number	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Number of aquatic species	0	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1
Number of emergent species	1	2	2	1	1	1	1	2	4	0	2	1	1	2	0	1	1	3	0	1
Number of bank species	3	4	3	4	3	2	4	1	2	1	0	0	0	3	0	0	0	5	3	6
Total number of species	4	6	6	5	4	3	5	3	9	1	2	1	1	5	0	1	1	8	3	8

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Azolla filiculoides																				
Callitriche obtusangula					1	1								1						1
Callitriche stagnalis/spp																				
Ceratophyllum demersum										1										1
Ceratophyllum submersum	1		1			1														
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†			1																	
Filamentous algae†		1		1						1									1	
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor	1		1			1				1									1	
Lemna trisulca	1		1			1														
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus			1												1					
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica				1															1	
Apium nodiflorum																				
Berula erecta	1			1	1			1		1								1		1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris				1																
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus							1												1	
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*	3		3	1	2	3		3		2	3	3	3	2		3		3		3
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris				1																
Scirpus maritimus*		1	1						2						2					1
Sparganium erectum				1						1									1	
Typha angustifolia																				
Typha latifolia			1			1		1			1	1				1			1	
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†							1		1								1			
Atriplex hastata			1												1					
Aster tripolium																				
Carex divisa																				
Carex otrubae				1	1	1	1				1			1		1			1	1
Carex distans																				
Chenopodium chenopodioides																				
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum				1																
Galium palustre																				1
Glaux maritima																				
Inula crithmoides																				
Juncus effusus	1			1	1	1		1		1	1	1				1	1	1	1	
Juncus inflexus	1				1	1	1			1		1		1		1			1	
Juncus gerardii									1											
Juncus maritima		1																		
Lycopus europaeus			1	1							1							1	1	
Lysimachia nummularia																				
Mentha aquatica																				1
Myosotis cespitosa				1										1						
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica				1																
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara			1																	
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*	1						1						2	1			3 ·			1
Ditch choked	1					1		1		1	1	1				1		1		
Ditch dry (N=near dry)					1	N	1	1	1	N	1	1		1	1	1	1	1		
Width (nearest metre)	1	6	20	2	2	2	2	2	3	2	2	2	4	3	4	2	2	3	2	2
land use north / east	P	P	P	P	P	P	P	P	P	P	P	P	U	P	P	P	P	P	P	P
land use south / west	P	P	U	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)	14	108	20	11		38				10									9	12

Ditch Number	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Number of aquatic species	3	0	4	0	1	4	0	0	0	2	0	0	0	1	1	0	0	0	1	2
Number of emergent species	2	1	3	6	2	2	1	3	1	3	2	2	1	1	1	2	0	2	4	3
Number of bank species	2	1	3	6	3	3	2	1	1	2	3	2	0	3	1	3	1	2	4	3
Total number of species	7	2	10	12	6	9	3	4	2	7	5	4	1	5	3	5	1	4	9	8

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum																				
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†					1															
Filamentous algae†																				
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor																				
Lemna trisulca																				
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus	1	1		1	1	1	1	1	1	1	1		1	1			1		1	1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta			1																	
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*					1	2	3	1				3								
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*	1	1		1	2	1	1	1	1	1	1	2	3	2	2	3		1	3	
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†			1																	
Atriplex hastata	1	1			1	1	1	1	1	1	1		1	1	1					
Aster tripolium																				
Carex divisa																				
Carex otrubae																				
Carex distans																				
Chenopodium chenopodioides														1		1		1		
Chenopodium rubrum														1						
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima																				
Inula crithmoides						1														
Juncus effusus			1																	
Juncus inflexus			1																	
Juncus gerardii		1		1							1	1	1	1					1	
Juncus maritima											1			1						
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis											1			1						
Pulicaria dysenterica																				
Salicornia sp.	1	1		1																
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica				1																
Spergularia marina	1	1		1						1	1			1						
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked							1					1								
Ditch dry (N=near dry)			1									1				1				
Width (nearest metre)	10	4	2	10	5	15	20	15	15	15	5	4	5	6	15	1	30	12	15	50
land use north / east	P	P	P	P	P	P	P	P	P	P	P	U	P	P	P	H	H	H	H	U
land use south / west	U	P	P	U	P	U	U	U	U	U	P	P	P	P	U	H	U	H	U	U
Conductivity (µScm x 100)	199+	199+		199+	199+	199+	199+	169	149	142	199+		199+	199+	163		110	32	28	140

Ditch Number	81	82	83	84	85	86	87	88	39	90	91	92	93	94	95	96	97	98	99	100
Number of aquatic species	1	1	0	1	1	1	1	1	1	1	1	0	1	1	0	0	1	0	1	1
Number of emergent species	1	1	1	1	2	2	2	2	1	1	1	2	1	1	1	1	0	1	1	0
Number of bank species	3	4	2	4	1	2	1	1	1	2	5	1	2	7	1	1	0	1	1	0
Total number of species	5	6	3	6	4	5	4	4	3	4	7	3	4	9	2	2	1	2	3	1

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum																				
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†																				
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor																				
Lemna trisulca																				
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus			1	1	1	1	1			1							1			1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*				1				3			3	3								
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*		1		3	1	1	1		3	2	3		3	1	3	2	3	2	2	1
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata				1														1	1	
Aster tripolium																1				
Carex divisa																	1			
Carex otrubae																				
Carex distans																				
Chenopodium chenopodioides	1																		1	
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima																	1			
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus																				
Juncus gerardii		1				1	1							1			1		1	
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																			1	
Pulicaria dysenterica												1								
Salicornia sp.	1	1								1						1		1	1	
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina		1					1							1					1	
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*								1												
Ditch choked								1												
Ditch dry (N=near dry)								1			1	1	1						1	
Width (nearest metre)	12	30	5	4	5	5	25	3	5	4	4	4	30	30	2	20	10	2	1	50
land use north / east	H	H	P	U	P	P	P	P	P	H	H	U	P	P	U	H	P	H	P	U
land use south / west	H	H	P	U	P	P	P	U	P	H	U	H	P	P	U	H	P	U	P	P
Conductivity (µScm x 100)	198	199+	199+	128	199+	199+	199+		199+	199+				199+	199+	199+	102	189		199+

Ditch Number	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Number of aquatic species	0	0	1	1	1	1	1	0	0	1	0	0	0	0	0	0	1	0	0	1
Number of emergent species	0	1	0	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1
Number of bank species	2	3	0	1	0	1	2	0	0	1	0	1	0	2	0	2	3	2	6	0
Total number of species	2	4	1	4	2	3	4	1	1	3	2	2	1	3	1	3	5	3	7	2

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch number	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum																				
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†	1													1						
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor																				
Lemna trisulca																				
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nympnoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus			1		1	1		1			1	1		1	1	1	1	1	1	
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii						1					1				1					
Ranunculus trichophyllus																				
Ranunculus seedling	1							1	1											
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*																				2
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*	2		1	1	3	2	3	1	2	3	2	1	1	2	3	1	2	2	1	1
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata						1					1				1			1		
Aster tripolium																				
Carex divisa	1		1		1			1												
Carex otrubae																				
Carex distans																				
Chenopodium chenopodioides	1					1	1		1	1					1			1		1
Chenopodium rubrum							1													
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima													1				2	1		1
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus																				
Juncus gerardii	1					1	1	1			1	1	1	1		1	1		1	1
Juncus maritima											1									
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis						1									1					
Pulicaria dysenterica																				
Salicornia sp.		1		1		1														
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina						1									1			1		
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked																				
Ditch dry (N=near dry)		1					1								1					
Width (nearest metre)	7	30	3	3	10	5	2	4	7	4	2	3	20	2	1	4	4	10	4	15
land use north / east	P	U	P	H	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	P
land use south / west	P	U	A	U	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)	60		44	199+	87	168		39	71	165	166	45	80	92		27	74	90	72	78

Ditch Number	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
Number of aquatic species	1	0	1	0	1	2	0	2	1	0	2	1	0	1	2	1	1	1	1	0
Number of emergent species	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Number of bank species	3	1	1	1	1	6	3	2	1	1	3	1	2	1	4	1	2	4	1	3
Total number of species	5	1	3	2	3	9	4	5	3	2	6	3	3	3	7	3	4	6	3	5

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch number	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum			1			1	1	1				1	1		1		1	1	1	
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†						1												1	1	
Filamentous algae†						1														
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba													1							
Lemna miniscula																				
Lemna minor																				
Lemna trisulca							1				1	1	1				1	1	1	
Myriophyllum spicatum							1			1		1					1	1	1	
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus	1	1		1	1	1		1	1	1		1					1	1	1	
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling					1									1			1			
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris										1										
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris							1													
Equisetum fluviatile																				
Glyceria fluitans											1									
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*																				
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum			1			1							1		1					
Scirpus lacustris																				
Scirpus maritimus*	2	1	1	1	2	1	1	1	1	1	2	1	1	2	2	2	1	1	2	3
Sparganium erectum																				
Typha angustifolia																	1			
Typha latifolia															1					1
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																1				1
Atriplex hastata																				
Aster tripolium																				
Carex divisa					1					1										
Carex otrubae																				
Carex distans																				
Chenopodium chenopodioides																			1	
Chenopodium rubrum								1				1							1	
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima		1																		
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus			1				1		1											
Juncus gerardii	1			1	1	1		1				1							1	
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina					1															
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*													1							
Ditch choked																				1
Ditch dry (N=near dry)																1				1
Width (nearest metre)	4	4	4	6	6	4		3	4	4	3	12	3	2	3	2	3	3	4	3
land use north / east	A	P	P	P	P	P	P	P	A	P	P	P	P	P	A	P	A	P	P	A
land use south / west	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Conductivity (μScm x 100)	27	76	23	27	78	43	24	77	27	77	37	42	42	46	48		35	34	35	

Ditch Number	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Number of aquatic species	1	1	1	1	2	2	3	2	1	3	1	4	3	1	1	0	5	4	4	0
Number of emergent species	1	1	2	1	1	2	2	1	1	1	2	1	2	1	3	1	2	1	1	2
Number of bank species	1	1	1	1	3	1	1	2	1	1	0	2	0	0	0	0	0	0	3	0
Total number of species	3	3	4	3	6	5	6	5	3	5	3	7	5	2	4	1	7	5	8	2

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch number	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Azolla filiculoides																				
Callitriche obtusangula					1			1							1	1		1		
Callitriche stagnalis/spp													1							
Ceratophyllum demersum																				
Ceratophyllum submersum	1						1		1	1				1	1	1	1	1	1	
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†	1						1				1	1			1					
Filamentous algae†							1			1	1	1					1			
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba							1										1			
Lemna miniscula																				
Lemna minor								1					1			1	1	1		
Lemna trisulca							1													
Myriophyllum spicatum					1		1		1									1		
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus	1								1	1	1			1	1		1		1	
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii		1			1		1									1				
Ranunculus trichophyllus																				
Ranunculus seedling				1		1														
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																1				
Alisma plantago-aquatica																				
Apium nodiflorum																	1			
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris					1		1								1	1	1			
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*			3																	
Ranunculus flammula																				
Ranunculus sceleratus										1							1			
Rumex hydrolapathum			1									1								
Scirpus lacustris																				
Scirpus maritimus*	2	3	1	1	3	2	1	2	1	2	1	2	2	2	1	1	2	1	2	
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex divisa					1															
Carex otrubae																				
Carex distans																				
Chenopodium chenopodioides										1				1					1	1
Chenopodium rubrum										1				1					1	1
Crassula helmsii																				
Epilobium hirsutum												1								
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus													1					1		
Juncus inflexus					1								1							
Juncus gerardii	1					1	1													
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicomia sp.																				
Samolus valerandi																				
Solanum dulcamara								1												
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*								1												
Ditch choked			1																	
Ditch dry (N=near dry)		1	1		N	1		1												1
Width (nearest metre)	2	1	3	1	2	1	3	2	4	3	3	3	2	6	3	2	3	2	5	4
land use north / east	P	P	A	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P
land use south / west	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)	49			62	93		21		44	49	51	32	15	52	28	35	23	25	44	

Ditch Number	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Number of aquatic species	2	1	0	1	3	1	5	2	3	2	1	0	2	2	3	5	4	4	2	0
Number of emergent species	1	1	3	1	2	1	2	1	1	2	1	2	1	1	2	2	4	1	1	0
Number of bank species	1	0	0	0	2	1	1	1	0	2	0	1	2	2	0	0	0	1	2	2
Total number of species	4	2	3	2	7	3	8	4	4	6	2	3	5	5	5	7	8	6	5	2

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch number	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
Azolla filiculoides											1							1		1
Callitriche obtusangula									1						1			1		1
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum		1	1				1				1	1				1	1	1		1
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†						1										1			1	
Filamentous algae†			1							1	1	1			1	1		1	1	1
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba				1																
Lemna miniscula																				
Lemna minor										1	1									1
Lemna trisulca											1							1		1
Myriophyllum spicatum		1					1			1	1	1		1		1	1		1	1
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus		1	1			1	1			1	1	1				1	1	1	1	1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii							1				1	1			1					1
Ranunculus trichophyllus																				
Ranunculus seedling						1														
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris							1													
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris			1							1	1	1			1			1		1
Equisetum fluviatile																				
Glyceria fluitans											1									1
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																		1		
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*													3							
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*	2	2	1	2	2	2	1	2	2		1	1	1	2	1	1	2	1	2	1
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex divisa								1		1					1					
Carex otrubae																		1		
Carex distans																				
Chenopodium chenopodioides		1				1	1							1		1				
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus			1							1										
Juncus inflexus										1								1		1
Juncus gerardii	1																	1		
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																		1		
Ditch choked																				
Ditch dry (N=near dry)	1			N	1				N											
Width (nearest metre)	1	4	2	1	3	4	10	1	1	5	3	3	10	4	1	4	3	4	4	1
land use north / east	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
land use south / west	P	P	P	P	P	P	P	P	P	P	U	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)		43	25	42		44	44	56	54	20	19	22	45	48	46	43	46	13	43	26

Ditch Number	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
Number of aquatic species	0	3	2	1	0	2	5	0	1	3	7	4	0	1	2	3	3	5	2	8
Number of emergent species	1	1	2	1	1	1	1	1	1	1	3	2	2	1	2	1	1	3	1	3
Number of bank species	1	1	1	0	0	1	1	1	0	3	0	0	0	1	1	1	0	3	0	1
Total number of species	2	5	5	2	1	4	7	2	2	7	10	6	2	3	5	5	4	11	3	12

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
Azolla filiculoides							1			1										
Callitriche obtusangula			1		1	1	1		1						1				1	
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1			1											1					
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†																				1
Filamentous algae†						1				1					1		1		1	
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba					1															
Lemna miniscula				1																
Lemna minor										1			1		1				1	
Lemna trisulca				1	1								1		1				1	
Myriophyllum spicatum	1																			
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus						1														
Potamogeton natans																				
Potamogeton pectinatus	1		1			1			1			1		1	1		1			1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii		1	1												1					
Ranunculus trichophyllus																				
Ranunculus seedling						1			1											
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris		1													1					
Alisma plantago-aquatica															1					
Apium nodiflorum										1	1									
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris		1		1	1	1	1													
Equisetum fluviatile																				
Glyceria fluitans				1									1							
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg				1	1						1									
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*													3						3	
Ranunculus flammula																				
Ranunculus sceleratus				1	1	1														
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*	2	2	1	1	1				2	1		1		2			2	1	1	1
Sparganium erectum					1	1									1					
Typha angustifolia							1	1					1		1					
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata															1					
Veronica scutellata																				
Grass dom (Agro/Alop)†																1				
Atriplex hastata																				
Aster tripolium																				
Carex divisa		1					1													
Carex otrubae										1										
Carex distans																				
Chenopodium chenopodioides	1				1													1		1
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum								1			1									
Galium palustre							1													
Glaux maritima												1								
Inula crithmoides																				
Juncus effusus				1																
Juncus inflexus		1		1	1		1			1	1				1	1			1	
Juncus gerardii	1		1						1	1		1		1				1	1	1
Juncus maritima									1			1						1		
Lycopus europaeus																1				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa							1								1					
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica							1													
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara								1					1							
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*							1	2			2		1			2				
Ditch choked							1													
Ditch dry (N=near dry)							1	1	1		1					1		1		
Width (nearest metre)	5	20	2	4	3	8	2	1	3	3	1	5	3	5	3	4	2	6	3	2
land use north / east	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
land use south / west	P	P	P	P	P	P	P		P	P		P		P	P	U	P	P	P	
Conductivity (µScm x 100)	38	42	42	15	14	9				13		105	7	122	33		98		11	199+

Ditch Number	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
Number of aquatic species	3	2	3	3	3	4	2	0	3	2	0	1	2	1	7	0	1	0	3	1
Number of emergent species	1	2	1	5	5	3	2	1	1	2	2	1	3	1	4	0	1	1	2	1
Number of bank species	2	2	1	2	2	0	5	2	2	3	2	3	1	1	2	2	0	3	2	2
Total number of species	6	6	5	10	10	7	9	3	6	7	4	5	6	3	13	2	2	4	7	4

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch number	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
Azolla filiculoides																				
Callitriche obtusangula	1		1	1												1		1		1
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum			1	1				1						1		1				1
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†		1			1				1					1						
Filamentous algae†			1		1			1						1		1		1		
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor			1					1										1		1
Lemna trisulca			1	1				1												
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus			1													1				1
Potamogeton natans																				
Potamogeton pectinatus							1	1	1		1	1		1				1	1	1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii								1												
Ranunculus trichophyllus																				
Ranunculus seedling		1			1				1			1								
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris				1				1								1				1
Alisma plantago-aquatica				1												1				
Apium nodiflorum													1					1		
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																		1		
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa								1										1		
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*	2							1							1					
Ranunculus flammula																				
Ranunculus sceleratus	1																			
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*		1			1		3		1	3	3	1		1			2		3	
Sparganium erectum			1	1				1								1		1		1
Typha angustifolia				1				1										1		1
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																1				1
Veronica scutellata																				
Grass dom (Agro/Alop)†						1							1		1					
Atriplex hastata																				
Aster tripolium																				
Carex divisa	1													1						
Carex otrubae	1																1			
Carex distans																	1			
Chenopodium chenopodioides																				
Chenopodium rubrum										1										
Crassula helmsii																				
Epilobium hirsutum													1			1				
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus			1	1				1					1			1		1		1
Juncus gerardii		1			1		1			1	1	1		1					1	
Juncus maritima										1										
Lycopus europaeus																1				
Lysimachia nummularia																				
Mentha aquatica													1			1				
Myosotis cespitosa																				1
Myosotis scorpioides													1							
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																1				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																1	1			
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*	1																2			
Ditch choked	1									1	1						1		1	
Ditch dry (N=near dry)						1				1			1		1		1			
Width (nearest metre)	3	5	4	4	5	3	1	6	5	2	3	1	1	4	2	3	2	8	4	5
land use north / east	P	P	P	P	P	P	P	P	P		P	P	P	P	P	P	P	P	U	P
land use south / west	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	U	P	P	P
Conductivity (µScm x 100)	12	20	7	27	35		75	13	54		70	73		40		6		8	124	13

Ditch Number	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
Number of aquatic species	1	1	5	4	1	0	1	6	2	0	1	2	0	2	0	4	0	3	1	6
Number of emergent species	2	1	1	3	1	0	1	4	1	1	1	1	1	1	1	3	1	5	1	3
Number of bank species	2	1	1	1	1	0	1	1	0	3	1	1	4	2	0	6	3	1	1	2
Total number of species	5	3	7	8	3	0	3	11	3	4	3	4	5	5	1	13	4	9	3	11

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch number	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
Azolla filiculoides																				
Callitriche obtusangula			1					1												
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum			1			1														
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†		1	1																	
Filamentous algae†		1	1		1			1		1							1			
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor			1					1												
Lemna trisulca								1												
Myriophyllum spicatum		1				1														
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus		1		1	1	1											1			
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling		1			1	1					1			1						1
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum			1																	
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans											1									
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*	2		3				3	3		3										
Ranunculus flammula																				
Ranunculus sceleratus			1																	
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*	2	1	2	1	3	1	3	3			2	3	1	2	3		3	3	3	3
Sparganium erectum																				
Typha angustifolia			1					1												
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†									1				1			1				
Atriplex hastata								1												
Aster tripolium																				
Carex divisa		1				1					1			1					1	
Carex otrubae			1																	
Carex distans											1			1					1	
Chenopodium chenopodioides																				
Chenopodium rubrum	1																			
Crassula helmsii					1															
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																1				
Juncus inflexus						1			1				1			1				
Juncus gerardii		1			1	1					1	1		1	1		1		1	1
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara								1												
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*								1	1							1			1	
Ditch choked								1		1				1	1				1	
Ditch dry (N=near dry)							1	1	1	1	1	1	1	1	1	1		1	1	
Width (nearest metre)	20	4	6	30	1	1	4	1	1	8	2	20	2	3	2	2	1	20	2	2
land use north / east	U	P	P	U	P	P	P	R	P	P	P	U	P	P	U	P	P	U	U	P
land use south / west	U	P	P	U	P	P	P	P	P	P	P	U	P	P	P	P	P	U	P	P
Conductivity (µScm x 100)	150	33	29	95	98	43											77			68

Ditch Number	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
Number of aquatic species	0	3	3	1	2	4	0	3	0	0	1	0	0	1	0	0	1	0	0	1
Number of emergent species	2	1	5	1	1	1	2	3	0	1	2	1	1	1	1	0	1	1	1	1
Number of bank species	1	2	1	0	2	3	0	2	1	0	3	1	1	3	1	2	1	0	3	1
Total number of species	3	6	9	2	5	8	2	8	1	1	6	2	2	5	2	2	3	1	4	3

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum																				
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†												1								
Filamentous algae†											1	1							1	
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																1				
Lemna miniscula																				
Lemna minor																1				
Lemna trisulca																1				
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus												1								
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile					1															
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*					2															
Ranunculus flammula																				
Ranunculus sceleratus				1			1									1	1			
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*	3	1		3	1	1	3	3	1		2	1	2	3	1	3	3		1	1
Sparganium erectum							1													
Typha angustifolia																				1
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†		1	1	1				1	1				1							
Atriplex hastata							1									1				
Aster tripolium																				
Carex divisa	1										1									
Carex otrubae	1																1			
Carex distans	1				1															
Chenopodium chenopodioides						1		1					1							1
Chenopodium rubrum						1						1			1					1
Crassula helmsii																				
Epilobium hirsutum					1															
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus			1																	
Juncus inflexus			1						1	1								1		
Juncus gerardii						1						1								
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.												1								
Samolus valerandi																				
Solanum dulcamara					1															
Spartina anglica																				
Spergularia marina											1	1								
Spergularia media												1								
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*			1						1											
Ditch choked					1															
Ditch dry (N=near dry)	1	1	1	1	1		1	1	1	1			1	1			1	1		
Width (nearest metre)	2	1	1	3	3	30	2	3	4	2	30	20	2	4	8	2	2	2	3	30
land use north / east	P	P	P	P	U	P	U	P	P	P	P	U	P	H	P	U	U	P	P	P
land use south / west	P	P	P	P	P	U	U	P	P	P	P	U	P		P	U	U	P	P	P
Conductivity (µScm x 100)						76					100	183			88	12			100	82

Ditch Number	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280
Number of aquatic species	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	0	0
Number of emergent species	1	1	0	2	3	1	3	1	1	0	1	1	1	1	1	2	2	0	1	2
Number of bank species	3	0	2	0	3	3	1	1	1	1	2	5	1	0	1	1	1	1	0	2
Total number of species	4	1	2	2	6	4	4	2	2	1	3	7	2	1	2	6	3	1	1	4

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300
Azolla filiculoides																				
Callitriche obtusangula				1					1								1			
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum											1							1	1	
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†							1				1							1	1	
Filamentous algae†				1			1						1				1			1
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba	1			1	1				1								1			1
Lemna miniscula																				
Lemna minor	1		1	1	1				1						1		1		1	1
Lemna trisulca				1					1								1		1	1
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus			1				1		1	1				1						
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling											1							1		
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum	1								1											
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris											1									
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima							D													
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*						1									3					
Ranunculus flammula																				
Ranunculus sceleratus					1				1						1					
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*	1	3	1	1	1	3	1		3	1	1		2	1			2	1	1	2
Sparganium erectum																				
Typha angustifolia		1															1			
Typha latifolia				1													1			
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†								1				1				1				
Atriplex hastata									1											
Aster tripolium																				
Carex divisa			1							1				1						
Carex otrubae		1																		
Carex distans																				
Chenopodium chenopodioides			1						1	1								1		
Chenopodium rubrum			1								1							1	1	
Crassula helmsii																				
Epilobium hirsutum				1					1								1			1
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus								1												
Juncus gerardii										1										
Juncus maritima				1										1						
Lycopus europaeus					1									1	1					
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara				1					1						1		1			
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*					1												1			1
Ditch choked																				
Ditch dry (N=near dry)		1						1				1				1				
Width (nearest metre)	4	2	30	4	3	10	2	2	6	20	5	2	3	7	5	2	4	30	15	2
land use north / east	P	U	P	U	P	P	U	P	U	U	P	P	U	U	U	P	U	P	P	U
land use south / west	P	U	P	U	P	P	U	P	U	U	P	P	P	U	U	P	U	P	P	U
Conductivity (µScm x 100)	8		39	5	5	100			6	26	33		100	167	5		5	21	26	5

Ditch Number	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300
Number of aquatic species	2	0	2	4	2	0	1	0	5	1	2	0	0	1	1	0	4	2	3	3
Number of emergent species	2	2	1	2	2	2	2	0	3	1	2	0	1	1	2	0	3	1	1	1
Number of bank species	0	1	3	3	1	0	0	1	4	3	1	0	0	3	2	0	2	2	1	1
Total number of species	4	3	6	9	5	2	3	1	12	5	5	0	1	5	5	0	9	5	5	5

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320
Azolla filiculoides										1										
Callitriche obtusangula																				
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum				1				1	1	1			1				1			1
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†			1	1			1	1	1	1			1				1			
Filamentous algae†	1		1		1					1				1		1	1			1
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba	1				1															
Lemna miniscula																				
Lemna minor	1			1	1		1	1		1			1	1			1			1
Lemna trisulca	1			1	1			1		1			1	1		1	1			1
Myriophyllum spicatum																1				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus								1		1						1	1			1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling									1											
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris						1		1	1	1			1	1			1			1
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus					1															
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*		3	3									3			3	3		3		
Ranunculus flammula																				
Ranunculus sceleratus					1					1							1			
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*	3		3	1	3	1	1	1	1	1	2		1	1			1		2	1
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata					1															
Veronica scutellata																				
Grass dom (Agro/Alop)†											1								1	
Atriplex hastata																				
Aster tripolium																				
Carex divisa									1			1								1
Carex otrubae															1					
Carex distans																				
Chenopodium chenopodioides											1									
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum	1	1			1															
Galium palustre																				
Glaux maritima							1													
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus					1		1									1		1		
Juncus gerardii			1				1					1								
Juncus maritima							1						1							
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica		1																		
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina			1																	
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*			1				1				1				2					
Ditch choked															1					
Ditch dry (N=near dry)						1			1		1			1	1			1	1	
Width (nearest metre)	4	4	30	6	2	5	3	6	5	7	1	6	20	6	1	2	7	1	2	6
land use north / east	U	P	U	H	P	P	U	H	P	P	P	P	P	P	P	P	P	U	P	P
land use south / west	U	U	P	H	P	P	P	P	P	P	P	P	P	P	U	P	P	P	P	P
Conductivity (µScm x 100)	5	77	100	42	10		16	28		22		84	24			54	18			34

Ditch Number	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320
Number of aquatic species	3	0	0	3	3	0	1	4	2	5	0	0	3	2	0	3	4	0	0	4
Number of emergent species	1	1	2	1	4	2	1	2	2	3	1	1	2	2	1	1	3	1	1	2
Number of bank species	1	2	2	0	2	0	4	0	1	0	1	2	1	0	1	1	0	1	0	1
Total number of species	5	3	4	4	9	2	6	6	5	8	2	3	6	4	2	5	7	2	1	7

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340
Azolla filiculoides	1		1																	
Callitriche obtusangula					1															
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1		1	1							1			1			1			
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†	1																			
Filamentous algae†				1							1									1
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba			1		1															
Lemna miniscula																				
Lemna minor	1		1	1	1	1					1									
Lemna trisulca	1		1		1	1					1						1			
Myriophyllum spicatum					1															
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus	1			1							1						1			
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1		1	1		1								1						
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg					1															
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*					3		3			3			3					3		
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*	1		1	1		1		1			1	3		1	3	1	1		1	3
Sparganium erectum																				
Typha angustifolia																			1	
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†		1							1	1										
Atriplex hastata																				1
Aster tripolium																				
Carex divisa																1	1			
Carex otrubae																				
Carex distans																				
Chenopodium chenopodioides	1											1								
Chenopodium rubrum			1																	
Crassula helmsii																				
Epilobium hirsutum													1							
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus					1		1													
Juncus gerardii								1												
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica													1							
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica					1								1							
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara					1														1	
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked							1						1							
Ditch dry (N=near dry)		1				1	1		1	1			1		1				1	
Width (nearest metre)	6	1	6	6	4	6	1	8	1	1	8	12	1	8	1	5	6	10	5	15
land use north / east	P	P	H	P	P	P	P	P	P	P	P	P	U	P	P	P	H	P	P	P
land use south / west	P	P	P	P	P	P	U	P	P	P	P	P	U	P	P	P	P	P	U	P
Conductivity (µScm x 100)	31		43	43	6			95			18	108		27		65	27	114		50

Ditch Number	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340
Number of aquatic species	5	0	5	3	5	2	0	0	0	0	4	0	0	1	0	0	3	0	0	0
Number of emergent species	2	0	2	2	2	2	1	1	0	1	1	1	1	2	1	1	1	1	2	1
Number of bank species	1	0	1	0	3	0	1	1	0	0	0	1	3	0	0	1	1	0	1	1
Total number of species	8	0	8	5	10	4	2	2	0	1	5	2	4	3	1	2	5	1	3	2

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360
Azolla filiculoides																				
Callitriche obtusangula																				1
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum					1									1	1			1		
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†			1	1																
Filamentous algae†													1	1	1					1
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor				1	1			1								1				
Lemna trisulca					1									1						
Myriophyllum spicatum									1						1					1
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus								1		1	1	1	1		1	1	1	1	1	
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				1
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris															1					
Alisma plantago-aquatica																		1		
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*																				
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris					1					1									1	
Scirpus maritimus*	2	2		2	2	2	3	2	1	2	2	2	3	3	3	2	1		2	1
Sparganium erectum																				
Typha angustifolia																		1		
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†		1	1				1													
Atriplex hastata										1										
Aster tripolium																			1	
Carex divisa		1									1		1				1			
Carex otrubae	1																			1
Carex distans																				
Chenopodium chenopodioides															1					
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima																				1
Inula crithmoides																				
Juncus effusus																		1		1
Juncus inflexus										1			1					1	1	1
Juncus gerardii	1								1			1					1		1	1
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis												1								
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina												1								
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*				2																
Ditch choked																				1
Ditch dry (N=near dry)	1	1	1			1	1	1		N	1					1	1			
Width (nearest metre)	3	1	1	5	6	4	2	5	9	3	6	4	6	8	8	5	5	4	9	4
land use north / east	P	P	P	U	U	P	P	P	P	U	P	U	P	P	P	P	P	P	P	U
land use south / west	U		P	P	P	P	P	P	P	U	U	P	P	H	P	P	P	P	P	P
Conductivity (µScm x 100)			115	62	6				66	170		158	48	48	50			69	173	89

Ditch Number	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360
Number of aquatic species	0	0	0	1	3	0	0	2	1	1	1	1	1	2	4	2	1	2	1	3
Number of emergent species	1	1	0	1	2	1	1	1	1	2	1	1	1	1	1	1	1	2	2	1
Number of bank species	2	1	0	0	0	0	0	0	1	2	1	3	2	0	1	0	2	2	3	5
Total number of species	3	2	0	2	5	1	1	3	3	5	3	5	4	3	6	3	4	6	6	9

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380
Azolla filiculoides																				
Callitriche obtusangula							1													
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum											1									1
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†	1										1									
Filamentous algae†	1								1		1									1
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor				1					1											1
Lemna trisulca				1					1	1										1
Myriophyllum spicatum	1		1				1				1			1						
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus	1								1		1						1			1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii							1													
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta				1																
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*				3						1										
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris			1				1	1	1						1					
Scirpus maritimus*	1		2		3	3	1	2	2		3		1	1	2	3	2	3	3	2
Sparganium erectum																				
Typha angustifolia							1													
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†					1							1								
Atriplex hastata																			1	
Aster tripolium																				
Carex divisa						1		1	1											1
Carex otrubae				1		1	1								1				1	
Carex distans																				
Chenopodium chenopodioides												1					1			
Chenopodium rubrum														1						
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus															1					
Juncus inflexus							1								1				1	
Juncus gerardii			1			1	1	1	1						1		1		1	1
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica				1																
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*		3																		
Ditch choked				1															1	
Ditch dry (N=near dry)		1			1	1		1				1	1		1	1		1	1	
Width (nearest metre)	7	2	5	3	1	3	4	5	5	6	6	1	4	10	2	2	5	1	2	6
land use north / east	P	U	P	U	P	P	U	P	P	H	P	P	H	P	P	P	P	P	P	H
land use south / west	P	U	P	U	P	P	P	H	P	P	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)	79		89	85			50		22	81	44			75			149			6

Ditch Number	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380
Number of aquatic species	2	0	1	2	0	0	3	0	3	1	3	0	0	1	0	0	1	0	0	4
Number of emergent species	1	0	2	2	1	1	3	2	2	1	1	0	1	1	2	1	1	1	1	1
Number of bank species	0	0	1	2	0	3	3	2	2	0	0	1	0	1	4	0	2	0	4	2
Total number of species	3	0	4	6	1	4	9	4	7	2	4	1	1	3	6	1	4	1	5	7

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400
Azolla filiculoides																				
Callitriche obtusangula												1						1		
Callitriche stagnalis/spp																				
Ceratophyllum demersum					1															
Ceratophyllum submersum		1		1			1													
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†		1									1	A								
Filamentous algae†		1		1			1				1			1						1
Groenlandia densa																				
Hydrocharis morsus-ranae												1								
Lemna gibba																				
Lemna miniscula																				
Lemna minor								1				1		1				1		
Lemna trisulca				1								1						1		
Myriophyllum spicatum					1				1											
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus		1					1				1									1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica														1						
Apium nodiflorum																				
Berula erecta										1		1								
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris					1			1		1										
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*			3	1				2				3	3		2		3		3	
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris												1								
Scirpus maritimus*		3		3	1	2	3		1	2	3			3	2	3		3	2	3
Sparganium erectum																				
Typha angustifolia						D				1										
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata						1									1				1	
Aster tripolium																				
Carex divisa				1	1															
Carex otrubae				1	1	1				1				1						
Carex distans																				
Chenopodium chenopodioides				1		1	1		1		1									1
Chenopodium rubrum															1					
Crassula helmsii																				
Epilobium hirsutum										1			1							
Galium palustre										1										
Glaux maritima																				
Inula crithmoides																				
Juncus effusus				1						1			1	1						
Juncus inflexus				1										1						
Juncus gerardii					1	1		1							1	1				
Juncus maritima														1						
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara	1												1							
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*	3		1																	
Ditch choked			1			1				1		1	1				1		1	
Ditch dry (N=near dry)	1	1	1			1		1		1	1			1		1			1	1
Width (nearest metre)	2	1	4	4	10	3	6	5	8	3	1	3	3	4	5	5	7	6	10	3
land use north / east	U	P	U	P	A	P	P	P	P	P	P	U	U	P	P	P	P	P	U	P
land use south / west	U	P	U	H	H	P	P	P	P	P	P	U	U	H	P	P	P	H	U	P
Conductivity (µScm x 100)				38	3		32		49			36	23		199+		199+	14		93

Ditch Number	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400
Number of aquatic species	0	2	0	2	2	0	2	1	1	0	1	4	0	1	0	0	0	3	0	1
Number of emergent species	0	1	1	2	2	2	1	2	1	4	1	3	1	2	2	1	1	1	2	1
Number of bank species	1	0	0	5	3	4	1	1	1	4	1	0	3	4	3	1	0	0	1	1
Total number of species	1	3	1	9	7	6	4	4	3	8	3	7	4	7	5	2	1	4	3	3

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420
Azolla filiculoides																				
Callitriche obtusangula										1		1						1		
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum		1			1			1		1							1			
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†					1															
Filamentous algae†								1									1			
Groenlandia densa																				
Hydrocharis morsus-ranae							1													
Lemna gibba																				
Lemna miniscula																				
Lemna minor		1					1				1			1						
Lemna trisulca		1			1		1				1			1						
Myriophyllum spicatum		1						1		1							1			
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus								1									1			
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica											1			1						
Apium nodiflorum																				
Berula erecta							1				1									
Butomus umbellatus																				
Carex riparia											1									
Eleocharis palustris	1				1					1							1			
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*							3				1				2					
Ranunculus flammula																				
Ranunculus sceleratus																		1		
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*	1	3	3	3	2	3		3	3	1		2	3			3	1	3	3	
Sparganium erectum		1									1									1
Typha angustifolia	D	1												1						
Typha latifolia											1									
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																1				
Atriplex hastata															1					
Aster tripolium																				
Carex divisa					1								1				1			
Carex otrubae	1															1				
Carex distans																				
Chenopodium chenopodioides		1	1									1	1		1		1		1	
Chenopodium rubrum																	1			
Crassula helmsii																				
Epilobium hirsutum		1									1									1
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus	1	1											1	1						
Juncus inflexus	1	1											1	1		1		1		1
Juncus gerardii	1				1				1	1					1					
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica				1							1									
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara											1									
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima				1																
Triglochin palustre																				
Scrub cover*				2			1				1									2
Ditch choked	1			1		1	1				1									1
Ditch dry (N=near dry)	1		1	1	N	1			1			1	1	1		1		1	1	1
Width (nearest metre)	3	4	7	4	4	1	4	2	1	20	5	5	3	2	6	2	8	1	3	4
land use north / east	P	P	P	U	P	P	F	P	P	A	F	P	P	H	P	P	P	P	P	F
land use south / west	P	H	P	F	P	P	U	P	P	P	A	P	H	H	P	P	P	P	H	A
Conductivity (µScm x 100)		52			80		41	70		15	11				92		48			

Ditch Number	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420
Number of aquatic species	0	4	0	0	2	0	3	3	0	3	2	1	0	2	0	0	3	1	0	0
Number of emergent species	3	3	1	1	2	1	2	1	1	2	6	1	1	2	1	1	2	2	1	1
Number of bank species	4	4	1	2	2	0	0	0	1	1	3	1	4	2	3	2	3	1	1	2
Total number of species	7	11	2	3	6	1	5	4	2	6	11	3	5	6	4	3	8	4	2	3

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440
Azolla filiculoides																				
Callitriche obtusangula					1						1									
Callitriche stagnalis/spp																				
Ceratophyllum demersum								1												
Ceratophyllum submersum		1		1					1		1							1		
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†					A															
Filamentous algae†				1				1			A							A		
Groenlandia densa																				
Hydrocharis morsus-ranae					1															
Lemna gibba																		1		
Lemna miniscula																				
Lemna minor					1			1							1			1		
Lemna trisulca				1	1													1		
Myriophyllum spicatum				1					1		1									
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus	1	1		1				1										1		
Potamogeton pusillus/berchtoldii		1																		
Ranunculus baudotii				1							1							1		
Ranunculus trichophyllus																				
Ranunculus seedling		1						1	1										1	
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris				1							1							1		
Alisma plantago-aquatica		1																		
Apium nodiflorum																				
Berula erecta					1										1					
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris		1		1				1	1		1			1				1	1	1
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg											1									
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*			2		3										3					
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris		1	1						1				1					1		
Scirpus maritimus*	3	1	2	2	1		1	1	1	3	2	2	2	2		3	2	2	2	2
Sparganium erectum					1															
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata											1									
Veronica scutellata																				
Grass dom (Agro/Alop)†										1		1					1			
Atriplex hastata													1					1		
Aster tripolium																				
Carex divisa				1	1			1			1									
Carex otrubae		1			1			1												
Carex distans																				
Chenopodium chenopodioides		1	1					1	1				1						1	
Chenopodium rubrum									1											
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre					1															
Glaux maritima																				
Inula crithmoides																				
Juncus effusus		1				1														
Juncus inflexus		1			1	1				1	1			1	1		1		1	
Juncus gerardii			1	1		1	1					1	1	1				1	1	1
Juncus maritima			1			1														
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica					1															
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*					1															
Ditch choked					1										1					
Ditch dry (N=near dry)						1	1			1		1		1	N		1		1	1
Width (nearest metre)	4	3	6	4	4	2	2	6	8	2	4	2	5	2	3	3	2	3	3	1
land use north / east	P	P	P	P	U	U	P	P	P	P	P	P	P	P	P	P	P	P	P	P
land use south / west	P	P	P	P	F	H	P	P	P	P	F	P	P	P	F	P	P	P	P	P
Conductivity (µScm x 100)	46	19	98	54	45			46	48		23		58		13	64		37		

Ditch Number	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440
Number of aquatic species	1	4	0	6	4	0	0	4	3	0	5	0	0	0	1	0	0	7	1	0
Number of emergent species	1	4	3	2	4	0	1	2	3	1	4	1	2	2	2	1	1	3	2	2
Number of bank species	0	4	3	2	5	4	1	3	2	1	2	1	3	2	1	0	1	2	3	1
Total number of species	2	12	6	10	13	4	2	9	8	2	11	2	5	4	4	1	2	12	6	3

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480
Azolla filiculoides																				
Callitriche obtusangula			1																	
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum	1				1		1	1		1				1		1		1	1	
Elodea canadensis																				
Elodea nuttallii														A						
Enteromorpha sp†	1						1											1		
Filamentous algae†	1				1		1				1			1		1			1	
Groenlandia densa																				
Hydrocharis morsus-ranae							1													
Lemna gibba																1				
Lemna miniscula																				
Lemna minor	1				1		1				1			1		1		1		
Lemna trisulca							1							1		1				
Myriophyllum spicatum							1											1		
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus														1						
Potamogeton natans																				
Potamogeton pectinatus	1		1		1	1	1	1			1					1		1	1	
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica							1													
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris														1						
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*			3	3			2		3				3				1			2
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*	2	3			2	2	2	2		2	2	2		1	3	2	3	2	2	1
Sparganium erectum														1						
Typha angustifolia														1						
Typha latifolia							1													
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata	1	1			1	1		1		1		1			1		1		1	
Aster tripolium																				
Carex divisa							1													
Carex otrubae														1						1
Carex distans																				
Chenopodium chenopodioides	1		1		1	1		1				1	1		1		1	1	1	
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima												1			1					
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus														1						
Juncus gerardii	1	1			1	1		1			1	1			1		1	1	1	1
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis						1														
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara														1						
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*														2						
Ditch choked		1												1			1			
Ditch dry (N=near dry)		1										1			1		1			
Width (nearest metre)	3	3	6	4	3	4	6	5	6	6	3	2	2	3	3	4	4	3	3	4
land use north / east	P	P	P	P	P	P	P	P	U	U	P	P	U	P	P	P	P	P	P	P
land use south / west	P	P	P	P	P	P	P	P	U	F	P	P	U	A	P	P	P	P	P	P
Conductivity (µScm x 100)	65		53	31	62	51	39	55	61	67	51		82	11		48		55	55	43

Ditch Number	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480
Number of aquatic species	3	0	2	0	3	1	6	2	0	1	2	0	0	5	0	5	0	4	2	0
Number of emergent species	1	1	1	1	1	1	4	1	1	1	1	1	1	4	1	1	2	1	1	2
Number of bank species	3	2	1	0	3	4	1	3	0	1	1	4	1	3	4	0	3	2	3	2
Total number of species	7	3	4	1	7	6	11	6	1	3	4	5	2	12	5	6	5	7	6	4

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460
Azolla filiculoides																				
Callitriche obtusangula	1			1												1	1			
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum			1		1						1					1				1
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†						D		1						1		1				
Filamentous algae†				1								1								
Groenlandia densa																				
Hydrocharis morsus-ranae						1														
Lemna gibba				1																
Lemna miniscula																				
Lemna minor				1		1						1		1		1				
Lemna trisulca			1	1																
Myriophyllum spicatum			1		1									1			1			1
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus			1	1					1							1	1		1	
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii				1					1											
Ranunculus trichophyllus																	1			
Ranunculus seedling									1											
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris														1						
Alisma plantago-aquatica						1								1						
Apium nodiflorum												1								
Berula erecta						1														
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1			1			1				1			1						
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg						1														
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*		3	3	1		2						3		2	3	2	2			
Ranunculus flammula																				
Ranunculus sceleratus																	1			
Rumex hydrolapathum																				
Scirpus lacustris						1										1				
Scirpus maritimus*	2			2	2		2	3	2	2	3			2		3		2	1	2
Sparganium erectum											1			1						
Typha angustifolia		1																		
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata				1										1						
Veronica scutellata																				
Grass dom (Agro/Alop)†													1							
Atriplex hastata				1	1				1					1				1	1	1
Aster tripolium																				
Carex divisa						1								1						1
Carex otrubae				1				1						1						
Carex distans																				
Chenopodium chenopodioides					1				1	1				1				1	1	1
Chenopodium rubrum																		1		1
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima					1													1		
Inula crithmoides																				
Juncus effusus		1																		
Juncus inflexus		1	1																	
Juncus gerardii	1				1		1	1	1	1				1				1	1	1
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica											1			1						
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii														1						
Polypogon monspeliensis																				
Pulicaria dysenterica											1									
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara	1		1								1									
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*												1			2					
Ditch choked											1	1			1					
Ditch dry (N=near dry)	1						1	N		1	1		1	N	1					
Width (nearest metre)	3	3	2	3	4	4	2	3	3	1	3	3	1	3	1	3	4	5	3	5
land use north / east	P	P	P	P	U	P	P	P	P	P	U	F	P	U	F	P	P	F	P	U
land use south / west	F	P	U	P	P	P	P	P	P	P	U	P	P	U	A	H	P	P	P	P
Conductivity (µScm x 100)		39	31	42	50	36		63	48			12		43		22	38	63	67	62

Ditch Number	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460
Number of aquatic species	1	0	4	6	2	2	0	0	3	0	1	1	0	3	0	4	4	0	1	2
Number of emergent species	2	2	1	4	1	5	2	1	1	1	3	2	0	6	1	3	2	1	1	1
Number of bank species	2	2	2	2	4	1	1	2	3	2	3	0	0	7	0	0	0	5	3	5
Total number of species	5	4	7	12	7	8	3	3	7	3	7	3	0	16	1	7	6	6	5	8

† Excluded from totals
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Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch number	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500
Azolla filiculoides															1					
Callitriche obtusangula						1							1							
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum		1																1		
Elodea canadensis																				
Elodea nuttallii									1											1
Enteromorpha sp†																				
Filamentous algae†		1		1					1						1					
Groenlandia densa																				
Hydrocharis morsus-ranae															1					
Lemna gibba																				
Lemna miniscula																				
Lemna minor				1					1				1		1					1
Lemna trisulca									1						1					1
Myriophyllum spicatum						1									1					1
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus		1	1	1		1		1	1		1		1		1			1	1	
Potamogeton pusillus/berchtoldii		1																		
Ranunculus baudotii															1					
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica									1						1					1
Apium nodiflorum																				
Berula erecta									1											1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris									1											1
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus									1											
Nasturtium officinale agg									1											1
Oenanthe aquatica																				
Oenanthe fistulosa									1											
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*		1				2							3	3	2					
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris						1														
Scirpus maritimus*		2	2	2	3	2	3	2	1	3	2	1	3	3	2	2		2	2	2
Sparganium erectum									1											1
Typha angustifolia															1					
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				1
Veronica scutellata																				
Grass dom (Agro/Alop)†	1																			
Atriplex hastata		1		1	1		1	1			1					1		1	1	
Aster tripolium																				
Carex divisa						1														
Carex otrubae																				
Carex distans																				
Chenopodium chenopodioides	1	1	1	1	1		1			1	1	1	1			1		1		
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima																		1	1	
Inula crithmoides																				
Juncus effusus									1											
Juncus inflexus									1											
Juncus gerardii		1	1	1	1		1	1			1	1				1	1	1	1	
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica									1											
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																		1		
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina	1					1						1				1				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked							1													
Ditch dry (N=near dry)	1						1					1				1				
Width (nearest metre)	1	4	5	4	4	4	3	4	3	8	3	2	4	8	6	2	3	4	4	5
land use north / east	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
land use south / west	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)		38	50	50	108	38		54	18	45	143		49	44	43		76	53	56	14

Ditch Number	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500
Number of aquatic species	0	3	1	2	0	3	0	1	4	0	1	0	3	0	7	0	0	2	1	4
Number of emergent species	0	2	1	1	1	3	1	1	8	1	1	1	2	2	4	1	0	1	1	7
Number of bank species	2	3	2	3	3	2	3	2	3	1	3	3	1	0	0	4	1	5	3	0
Total number of species	2	8	4	6	4	8	4	4	15	2	5	4	6	2	11	5	1	8	5	11

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520
Azolla filiculoides																				
Callitriche obtusangula																				1
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum																				
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†												1							1	1
Filamentous algae†		1																	1	1
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor		1										1								
Lemna trisulca		1																		
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus			1		1						1	1	1	1		1	1			
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling												1								
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica		1																		
Apium nodiflorum																				
Berula erecta		1																		
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																			1	1
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus		1																		
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*		2												3	2					
Ranunculus flammula																				
Ranunculus sceleratus														3						
Rumex hydrolapathum																				
Scirpus lacustris		1										1								
Scirpus maritimus*	2		2	2	2	3	3	2	1		2	2	2		1	2	2	3		
Sparganium erectum		1																		
Typha angustifolia																				
Typha latifolia		1																		
Veronica anagallis-aquatica																				1
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†										1										
Atriplex hastata				1			1		1			1		1						
Aster tripolium																				
Carex divisa					1															1
Carex otrubae		1																		
Carex distans																				
Chenopodium chenopodioides	1			1	1			1			1	1	1	1	1	1	1	1		
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus		1																		
Juncus inflexus		1													1					
Juncus gerardii	1		1	1	1	1		1	1		1	1	1	1	1	1	1	1		
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis			1										1			1	1			
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina									1							1				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked		1																		
Ditch dry (N=near dry)	1					1			1	1								1		
Width (nearest metre)	6	3	3	6	3	2	3	7	2	2	5	6	5	3	4	4	4	2	7	7
land use north / east	P	F	P	P	P	P	P	P	P	P	P	P	P	P	U	P	P	P	P	P
land use south / west	P	A	P	P	P	P	U	P	P	P	P	P	P	U	U	P	P	P	P	P
Conductivity (µScm x 100)		9	60	83	57		199+	62			50	63	52	199+	70	68	53		7	7

Ditch Number	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520
Number of aquatic species	0	2	1	0	1	0	0	0	0	0	1	3	1	1	0	1	1	0	0	1
Number of emergent species	1	7	1	1	1	1	1	1	1	0	1	2	1	2	2	1	1	1	1	2
Number of bank species	2	3	2	3	3	1	1	2	3	0	2	3	3	3	3	4	3	2	0	1
Total number of species	3	12	4	4	5	2	2	3	4	0	4	8	5	6	5	6	5	3	1	4

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum												1								
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†					1							1								
Filamentous algae†												D								
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor												1								
Lemna trisulca																				
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus					1		1		1	1				1		1				
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica	1																			
Apium nodiflorum																				
Berula erecta																				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa	1																			
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*											3									3
Ranunculus flammula																				
Ranunculus sceleratus											1									
Rumex hydrolapathum																				
Scirpus lacustris	1																			
Scirpus maritimus*	2		3	3	2	1	2	1	2	2	2	2	1	2		2		1		3
Sparganium erectum	1																			
Typha angustifolia	1										1									
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata			1	1	1	1			1	1	1		1	1		1	1	1	1	
Aster tripolium																				
Carex divisa																				
Carex otrubae																				
Carex distans																				
Chenopodium chenopodioides			1	1	1	1	1	1	1	1	1		1	1			1	1	1	
Chenopodium rubrum																	1	1	1	
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima					1	1	1													
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus																				
Juncus gerardii			1	1	1	1	1	1	1	1			1	1		1	1	1	1	
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis							1						1	1		1				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina													1							
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked	1		1	1																
Ditch dry (N=near dry)	1	1	1	1									1		1		1	1		
Width (nearest metre)	2	2	4	5	3	10	4	20	2	5	4	5	3	4	5	4	4	6	20	3
land use north / east	F	P	P	A	P	P	P	P	P	P	U	P	P	P	P	P	P	P	P	
land use south / west	A	P	P	P	P	P	P	P	U	P	U	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)					91	60	68	63	199+	62	66	94		78		108			62	62

Ditch Number	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540
Number of aquatic species	0	0	0	0	1	0	1	0	1	1	0	2	0	1	0	1	0	0	0	0
Number of emergent species	6	0	1	1	1	1	1	1	1	1	4	1	1	1	0	1	0	1	0	2
Number of bank species	0	0	3	3	4	4	4	2	3	3	2	0	5	4	0	3	4	4	4	0
Total number of species	6	0	4	4	6	5	6	3	5	5	6	3	6	6	0	5	4	5	4	2

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560
Azolla filiculoides																				
Callitriche obtusangula																				1
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum																	1			1
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†																				
Filamentous algae†																	1			
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor														1	1	1	1			1
Lemna trisulca															1		1			1
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus			1		1						1		1						1	
Potamogeton pusillus/berchtoldii																	1			
Ranunculus baudotii																				1
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum														1						
Berula erecta														1	1					1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris															1					
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				1
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*					3			3							3					
Ranunculus flammula																				
Ranunculus sceleratus														1		1				1
Rumex hydrolapathum															1					
Scirpus lacustris														1	1					
Scirpus maritimus*	2	3	2	2			3	2	2		3	3			1	1			3	
Sparganium erectum														D		1	1			1
Typha angustifolia								1									1			D
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				1
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata	1		1	1		1		1												
Aster tripolium																				
Carex divisa																				
Carex otrubae															1		1			
Carex distans																				
Chenopodium chenopodioides	1	1	1	1	1	1	1	1	1	1	1	1							1	
Chenopodium rubrum		1							1			1							1	
Crassula helmsii																				
Epilobium hirsutum															1					
Galium palustre																				1
Glaux maritima			1	1			1													
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus														1	1		1			1
Juncus gerardii	1		1	1				1	1	1			1						1	
Juncus maritima																				
Lycopus europaeus															1					
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina							1	1												
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*															1	1				
Ditch choked								1						1	1					1
Ditch dry (N=near dry)		N		1					1			1		1	N			1		
Width (nearest metre)	4	2	4	7	2	40	30	10	10	10	4	6	5	2	10	3	4	2	5	3
land use north / east	P	U	P	P	P	P	P	U	P	P		P	P	P	F	P	P	P	P	P
land use south / west	P	U	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)	197	90	129		62	68	199+	123		85	111		68		28	13	12		56	10

Ditch Number	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560
Number of aquatic species	0	0	1	0	1	0	0	0	0	0	1	0	1	1	2	1	4	0	1	5
Number of emergent species	1	1	1	1	1	0	1	3	1	0	1	1	0	5	6	3	2	0	1	6
Number of bank species	3	2	4	4	1	2	3	4	3	2	1	2	1	1	4	0	2	0	3	2
Total number of species	4	3	6	5	3	2	4	7	4	2	3	3	2	7	12	4	8	0	5	13

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580
Azolla filiculoides																				
Callitriche obtusangula							1	1					1							
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum							1	1									1		D	1
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†																				1
Filamentous algae†								1									1		1	1
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor							1	1			1			1					1	1
Lemna trisulca							1	1											1	1
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus				1	1		1								1	1		1		1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii							1	1												
Ranunculus trichophyllus																				
Ranunculus seedling	1																			
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica								1												
Apium nodiflorum								1									1			
Berula erecta	1						1	1						1			1		1	1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1						1	1					1				1		1	1
Equisetum fluviatile																				
Glyceria fluitans	1						1													
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg							1												1	1
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*		3	1					1				3					1			1
Ranunculus flammula																				
Ranunculus sceleratus	1		1				1				1		1							
Rumex hydrolapathum																				
Scirpus lacustris	1						1						1	1					1	1
Scirpus maritimus*				3	2	3	1	1	3	3		3	1		3	2		3		
Sparganium erectum			1					1			1		1				1		1	1
Typha angustifolia								1						1					1	
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata								1												
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata		1								1			1					1		
Aster tripolium																				
Carex divisa																				
Carex otrubae	1						1												1	1
Carex distans																				
Chenopodium chenopodioides				1	1				1	1					1	1		1		
Chenopodium rubrum																1		1		
Crassula helmsii																				
Epilobium hirsutum														1						
Galium palustre							1													
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus	1		1				1	1			1		1	1			1			1
Juncus gerardii										1						1				
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa							1										1			
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara								1												
Spartina anglica																				
Spergularia marina													1							
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																			1	
Scrub cover*														2						
Ditch choked														1						
Ditch dry (N=near dry)	1			N				N		1		1	1	N						
Width (nearest metre)	4	3	3	2	4	12	3	2	3	2	3	2	3	3	4	5	4	4	5	3
land use north / east	P	P	P	P		H	P	P	P	P	P	P	P	P	P	P	P	P	P	P
land use south / west	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)		65	17	112	52	85	20	13	96		14			43	98	61	14	103	15	4

Ditch Number	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580
Number of aquatic species	1	0	0	1	1	0	6	5	0	0	1	0	1	1	1	1	1	1	3	4
Number of emergent species	5	1	3	1	1	1	7	9	1	1	2	2	5	3	1	1	5	1	6	6
Number of bank species	2	1	1	1	1	0	4	2	1	3	1	0	3	2	1	3	2	3	2	2
Total number of species	8	2	4	3	3	1	17	16	2	4	4	2	9	6	3	5	8	5	11	12

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch number	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600
Azolla filiculoides																				
Callitriche obtusangula										1										
Callitriche stagnalis/spp																				
Ceratophyllum demersum									1											
Ceratophyllum submersum				1				D		1					D					1
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†				1											1					
Filamentous algae†				1				1	1	1			1	1	1			1		A
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor				1				1	1	1				1	1					1
Lemna trisulca				1					1						1					1
Myriophyllum spicatum			1										1							
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus														1						1
Potamogeton natans																				
Potamogeton pectinatus		1	1	1	1	1			1		1		1	1	1			1	1	1
Potamogeton pusillus/berchtoldii									1											
Ranunculus baudotii															1					
Ranunculus trichophyllus			1																	
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica														1						
Apium nodiflorum																				
Berula erecta				1				1	1	1					1					1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris				1				1	1	1					1					1
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus				1						1				1	1					
Nasturtium officinale agg				1				1	1	1					1					
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*	3							1		2				1						
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris							1													
Scirpus maritimus*		3	2		3	2	2		1		3	1	3		1		2	2	2	
Sparganium erectum				1				1	1	1				1	1					
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†												1								
Atriplex hastata																1	1		1	
Aster tripolium																				
Carex divisa															1	1				1
Carex otrubae								1	1	1					1					
Carex distans																				
Chenopodium chenopodioides		1	1		1	1	1				1	1	1			1	1	1	1	
Chenopodium rubrum		1	1		1		1				1	1	1			1			1	
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre										1										
Glaux maritima			1		1						1	1						1	1	
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus								1		1				1						
Juncus gerardii		1	1		1		1		1			1	1			1	1	1		
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica														1						
Myosotis cespitosa										1										
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica										1				1						
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina												1	1						1	
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre				1											1					
Scrub cover*														1						
Ditch choked	1																			
Ditch dry (N=near dry)												1					1	N		
Width (nearest metre)	2	4	4	4	3	5	8	4	4	3	8	3	4	3	5	6	3	4	4	4
land use north / east	P	P		P	P	P	P	P	P	P	P	P		P	P	U	P	P	P	P
land use south / west	F	P	P	P	P	P	P	P	P	F	P	P	P	F	P	U	P	P	P	P
Conductivity (µScm x 100)	199+	60	67	6	71	110	56	15	18	15	88		61	10	5	84		99	77	5

Ditch Number	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600
Number of aquatic species	0	1	3	4	1	1	0	2	5	3	1	0	2	3	5	0	0	1	1	5
Number of emergent species	1	1	1	5	1	1	2	5	5	6	1	1	1	4	6	0	1	1	1	2
Number of bank species	0	3	4	1	4	1	3	2	2	5	3	5	4	3	3	5	3	3	5	1
Total number of species	1	5	8	10	6	3	5	9	12	14	5	6	7	10	14	5	4	5	7	8

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620
Azolla filiculoides																				
Callitriche obtusangula			1				1				1		1					1		
Callitriche stagnalis/spp																				
Ceratophyllum demersum		1				1														
Ceratophyllum submersum	1	1				1					1		1	D				1	1	
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†													1							
Filamentous algae†	1	1	A			1	D			1	1		A	1		1			1	
Groenlandia densa			1										1							
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor	1	1	1			1	1			1	1		1	1		1		1	1	
Lemna trisulca	1	1				1	1				1			1		1		1	1	
Myriophyllum spicatum																				
Myriophyllum verticillatum			1										1							
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus	1	1			1	1			1											
Potamogeton pusillus/berchtoldii						1														
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																			1	
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum			1							1			1	1					1	
Berula erecta		1				1	1			1	1			1		1		1	1	
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris		1				1	1			1	1					1		1	1	
Equisetum fluviatile							1													
Glyceria fluitans																				
Glyceria maxima			1				1						1							
Hippuris vulgaris						1				1										
Iris pseudacorus																				
Juncus articulatus			1			1	1			1				1					1	
Nasturtium officinale agg	1	1				1	1				1		1					1	1	
Oenanthe aquatica																				
Oenanthe fistulosa						1				1						1				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*	2										2			1		3		2	2	
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris						1				1				1		1		1		
Scirpus maritimus*				3	2			2	2	1		2		1	3		3	1		3
Sparganium erectum		1	1			1				1								1	1	
Typha angustifolia																1				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata													1							
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata					1							1			1		1			
Aster tripolium																				
Carex divisa		1				1								1		1			1	
Carex otrubae	1	1				1	1			1	1								1	
Carex distans																				
Chenopodium chenopodioides				1	1				1			1			1		1			
Chenopodium rubrum					1															
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre				1																
Glaux maritima					1				1											
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus																				
Juncus gerardii		1				1		2	1			1			1		1			1
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa			1										1						1	
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina				1					1			1								
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre						1	1									1			1	
Scrub cover*	2																			
Ditch choked															1	1				1
Ditch dry (N=near dry)															1		1			1
Width (nearest metre)	4	5	6	15	4	5	4	10	4	4	4	10	7	4	2	4	3	5	3	8
land use north / east	P	P	P	P	H	P	P	P	P	P	P	P	P	P	P	P	P	P	P	U
land use south / west	U	P	P	P	P	P	P	U	P	P	P	P	P	P	P	P	P	P	P	U
Conductivity (µScm x 100)	7	6	7	92	86	15	7	88	90	17	6	74	7	6		7		7	6	

Ditch Number	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620
Number of aquatic species	4	5	4	0	1	6	3	0	1	1	4	0	5	3	0	2	0	4	4	0
Number of emergent species	2	4	4	1	1	8	6	1	1	9	4	1	4	6	1	6	1	7	7	1
Number of bank species	1	3	1	3	4	4	2	1	4	1	1	4	1	1	3	2	3	0	4	1
Total number of species	7	12	9	4	6	18	11	2	6	11	9	5	10	10	4	10	4	11	15	2

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640
Azolla filiculoides																				
Callitriche obtusangula			1									1		1					1	
Callitriche stagnalis/spp																				
Ceratophyllum demersum		1																		
Ceratophyllum submersum	1	1	1	1																
Elodea canadensis			1																	
Elodea nuttallii																				
Enteromorpha sp†	A		1	1				1						1					1	1
Filamentous algae†		1	1	1				1				1		1						
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba				1																
Lemna miniscula																				
Lemna minor	1	1	1	1				1												
Lemna trisulca	1	1	1																	
Myriophyllum spicatum			1																	
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans								1												
Potamogeton pectinatus				1	1	1														1
Potamogeton pusillus/berchtoldii				1																
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris			1																	
Alisma plantago-aquatica			1																1	
Apium nodiflorum	1		1					1						1						
Berula erecta	1	1		1								1				1			1	1
Butomus umbellatus																				
Carex riparia		1	1						1		1				1		1		1	1
Eleocharis palustris		1	1	1								1								
Equisetum fluviatile			1																	
Glyceria fluitans																				
Glyceria maxima												1				1				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus	1																			
Nasturtium officinale agg	1															1				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*	2	2	3					3	2	3	3		1	3	3		1	2	3	3
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum												1		1						
Scirpus lacustris		1		1				1												
Scirpus maritimus*		1		1	2	2	3			1		1		2				2	1	
Sparganium erectum			1					1						1						
Typha angustifolia																				
Typha latifolia																	1			
Veronica anagallis-aquatica																				
Veronica catenata								1				1								
Veronica scutellata																				
Grass dom (Agro/Alop)†													1		1					
Atriplex hastata																				
Aster tripolium																				
Carex divisa		1		1																
Carex otrubae								1												
Carex distans																				
Chenopodium chenopodioides																				
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum			1																1	
Galium palustre																				
Glaux maritima					1		1													
Inula crithmoides																				
Juncus effusus																				1
Juncus inflexus		1	1					1					1		1	1			1	1
Juncus gerardii				1	1	1	1											1		
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica			1					1				1								1
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																	1			
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara								1									1			
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*										1			1		1		2		1	
Ditch choked									1		1				1	1	1		1	1
Ditch dry (N=near dry)							1		1	1	1		1		1		1	1	.	
Width (nearest metre)	4	5	4		15	10	3	6	2	1	3	12	1	10	1	3	2	5	3	3
land use north / east	P	P	H		P	P	P	P	P	H	P	H	P	P	P	P	P	P	P	P
land use south / west	P	P	A		P	P	P	A	P	H	P	U	P	A	P	P	P	P	P	P
Conductivity (µScm x 100)	6	12	10		95	93		9				10		6		12			12	17

Ditch Number	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640
Number of aquatic species	3	4	7	5	1	1	0	2	0	0	0	1	0	1	0	0	0	0	1	1
Number of emergent species	5	6	7	4	1	1	1	5	2	2	2	6	1	5	2	3	3	2	5	3
Number of bank species	0	2	3	2	2	1	2	4	0	0	0	1	1	0	1	1	2	1	2	3
Total number of species	8	12	17	11	4	3	3	11	2	2	2	8	2	6	3	4	5	3	8	7

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
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Ditch number	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660
Azolla filiculoides																				
Callitriche obtusangula											1								1	
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum			1										1				1			1
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†	1				1										1				1	
Filamentous algae†			1				1				1	1	1		1					
Groenlandia densa																				
Hydrocharis morsus-ranae												1			1		1			1
Lemna gibba																				
Lemna miniscula																				
Lemna minor	1		1		1		1					1	1		1		1		1	1
Lemna trisulca					1		1						1				1		1	1
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus													1							
Potamogeton pusillus/berchtoldii																				1
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling			1																	
Spirodela polyrhiza																				
Utricularia vulgaris												1								
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum			1				1					1			1		1	1		1
Berula erecta			1			1	1				1	1	1			1	1			1
Butomus umbellatus																				
Carex riparia		1				1	1			1								1		
Eleocharis palustris	1		1												1				1	
Equisetum fluviatile	1						1												1	
Glyceria fluitans																				
Glyceria maxima	1				1		1			1	1				1			1	1	1
Hippuris vulgaris					1															
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg					1		1												1	
Oenanthe aquatica																				
Oenanthe fistulosa										1		1						1		
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*		2	3			3			3	3	3	2	2		1		2	1	2	
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum												1			1					1
Scirpus lacustris																				
Scirpus maritimus*														1		1		1		
Sparganium erectum																	1			1
Typha angustifolia																				
Typha latifolia	1																			
Veronica anagallis-aquatica																				
Veronica catenata					1															
Veronica scutellata																				
Grass dom (Agro/Alop)†				1										1		1		1		
Atriplex hastata																				
Aster tripolium																				
Carex divisa																				
Carex otrubae										1										
Carex distans																				
Chenopodium chenopodioides																				
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum	1						1												1	
Galium palustre																	1			
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus	1		1	1		1	1		1	1	1	1	1	1	1	1	1	1	1	1
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica					1	1						1			1				1	
Myosotis cespitosa																	1			1
Myosotis scorpioides					1														1	
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*		1																		
Ditch choked			1			1			1									1		
Ditch dry (N=near dry)		1		1				1	1					1		1		1		
Width (nearest metre)	8	3	3	4	7	4	8	3	2	1	8	5	4	2	8	1	4	3	8	6
land use north / east	P	P	P	P	S	P	U	P	P	P	U	P	P	P	P	P	P	S	S	P
land use south / west	P	P	S	P	P	P	U	P	P	P	U	P	S	P	P	P	P	P	P	P
Conductivity (µScm x 100)	14		40		13	6	12			8	11	5	15		4		4		13	0

Ditch Number	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660
Number of aquatic species	1	0	3	0	2	0	2	0	0	0	1	3	4	0	2	0	4	0	3	5
Number of emergent species	4	2	4	0	4	3	6	0	1	4	3	5	2	1	5	2	4	6	5	5
Number of bank species	2	0	1	1	2	2	2	0	1	2	1	2	1	1	2	1	3	1	4	2
Total number of species	7	2	8	1	8	5	10	0	2	6	5	10	7	2	9	3	11	7	12	12

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680
Azolla filiculoides																				
Callitriche obtusangula	1									1				1						1
Callitriche stagnalis/spp																				
Ceratophyllum demersum		1						1												
Ceratophyllum submersum			1	1		1	1											1		
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†	1								1								1			
Filamentous algae†		1	1	1	1		1		1	1	1		1	1	1		1	1	1	1
Groenlandia densa																				
Hydrocharis morsus-ranae		1		1		1		1	1								1			
Lemna gibba																				
Lemna miniscula																				
Lemna minor	1	1	1	1	1	1	1		1	1	1		1	1	1		1	1		1
Lemna trisulca		1	1	1	1	1	1	1	1	1	1		1	1	1			1	1	
Myriophyllum spicatum	1	1											1							
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus		1			1		1				1							1		
Potamogeton pusillus/berchtoldii		1																		
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris		1		1		1		1	1											1
Zannichellia palustris																				
Alisma plantago-aquatica		1																		
Apium nodiflorum		1		1		1		1	1		1			1			1		1	
Berula erecta	1		1	1	1	1	1	1	1	1	1		1	1	1		1		1	1
Butomus umbellatus																				
Carex riparia		1		1			1		1								1			1
Eleocharis palustris		1			1		1													1
Equisetum fluviatile		1															1			
Glyceria fluitans										1										
Glyceria maxima	1		1	1						1										
Hippuris vulgaris										1										
Iris pseudacorus																				
Juncus articulatus				1	1				1	1					1					1
Nasturtium officinale agg	1	1								1				1						1
Oenanthe aquatica																				
Oenanthe fistulosa				1			1		1				1							1
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*	1	1	3	2	1	2	3	2	2		2		2				2		3	3
Ranunculus flammula																				
Ranunculus sceleratus																1				
Rumex hydrolapathum		1	1	1			1	1							1					
Scirpus lacustris				1	1						1		1							
Scirpus maritimus*				1								3				1		3		
Sparganium erectum		1				1				1			1		1					1
Typha angustifolia																				
Typha latifolia																				1
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†												1				1				
Atriplex hastata																				
Aster tripolium																				
Carex divisa							1													
Carex otrubae											1								1	
Carex distans																				
Chenopodium chenopodioides																				
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre					1			1							1					
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus	1	1	1	1	1	1	1	1	1	1	1		1		1	1	1		1	1
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica				1						1					1					1
Myosotis cespitosa				1		1		1									1			
Myosotis scorpioides	1									1				1						
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																2			1	
Ditch choked																			1	
Ditch dry (N=near dry)										1		1				1				
Width (nearest metre)	6	8	5	12	3	6	3	8	12	12	3	1	3	4	5	3	3	2	4	3
land use north / east	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
land use south / west	P	P	S	P	P	H	P	P	P	U	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)	7	5	13	3	8	6	11	3	4		6		8	5	6		5	61	17	6

Ditch Number	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680
Number of aquatic species	3	8	3	5	3	5	4	4	4	3	3	0	3	3	2	0	2	4	1	3
Number of emergent species	4	9	4	10	5	4	6	4	6	7	4	1	5	3	4	2	5	1	3	9
Number of bank species	2	1	1	3	2	2	2	3	1	3	2	0	1	1	3	1	2	0	2	2
Total number of species	9	18	8	18	10	11	12	11	11	13	9	1	9	7	9	3	9	5	6	14

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700
Azolla filiculoides																				
Callitriche obtusangula	1	1		1	1				1			1				1	1		1	1
Callitriche stagnalis/spp																				
Ceratophyllum demersum																1	1	1		
Ceratophyllum submersum																				1
Elodea canadensis																1				
Elodea nuttallii					1								1			1		1		
Enteromorpha sp†	1				1															
Filamentous algae†	1	1	1	1	1		1		1			1				1	1	1	1	
Groenlandia densa																				
Hydrocharis morsus-ranae	1			1	1		1		1			1	1			1	1	1		
Lemna gibba																				
Lemna miniscula																				
Lemna minor	1	1		1	1		1	1	1			1	1			1	1		1	1
Lemna trisulca	1	1			1				1				1			1			1	1
Myriophyllum spicatum					1															
Myriophyllum verticillatum					1															
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																1				
Potamogeton natans													1			1				
Potamogeton pectinatus			1				1												1	1
Potamogeton pusillus/berchtoldii	1			1	1		1		1				1			1		1		
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling	1	1																		
Spirodela polyrhiza																				
Utricularia vulgaris																1				
Zannichellia palustris							1									1				
Alisma plantago-aquatica							1					1	1			1		1		1
Apium nodiflorum	1							1	1			1	1			1	1		1	
Berula erecta	1	1					1	1	1			1					1	1	1	1
Butomus umbellatus																				
Carex riparia								1								1				
Eleocharis palustris			1										1			1				1
Equisetum fluviatile													1							
Glyceria fluitans																				
Glyceria maxima	1			1	1		1		1				1			1	1	1		
Hippuris vulgaris													1							
Iris pseudacorus																				
Juncus articulatus		1					1					1							1	
Nasturtium officinale agg	1	1		1	1				1			1						1		
Oenanthe aquatica																				
Oenanthe fistulosa									1				1				1			
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*			1			1		1	1			1	1				1	1		
Ranunculus flammula																				
Ranunculus sceleratus	1			1													1			1
Rumex hydrolapathum					1															
Scirpus lacustris											1			1						1
Scirpus maritimus*						3					3			3	2				1	3
Sparganium erectum	1	1		1	1		1			1			1			1	1		1	1
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata	1																			
Veronica scutellata	1																			
Grass dom (Agro/Alop)†																				
Atriplex hastata						1					1				1					
Aster tripolium																				
Carex divisa														1	1					
Carex otrubae							1													1
Carex distans																				
Chenopodium chenopodioides													1		1					
Chenopodium rubrum																				
Crassula helmsii		1																		
Epilobium hirsutum																				
Galium palustre									1								1			
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus		1		1	1		1		1	1		1	1				1	1	1	1
Juncus gerardii															1					
Juncus maritima																				
Lycopus europaeus													1							
Lysimachia nummularia																				
Mentha aquatica													1				1			
Myosotis cespitosa							1		1			1					1	1		
Myosotis scorpioides		1		1	1				1											
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																			1	
Salicornia sp.																				
Samolus valerandi									1											
Solanum dulcamara																				1
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																				1
Ditch choked						1														
Ditch dry (N=near dry)						1				1										
Width (nearest metre)	12	5	2	10	10	2	6	3	5	3	6	8	5	5	7	4	5	5	6	1
land use north / east	P	P	P	P	P	U	P	P	P	P	P	P	P	P	U	P	P	P	P	P
land use south / west	P	P	P	P	P	A	P	P	P	P	P	P	P	P	U	P	P	P	P	P
Conductivity (µScm x 100)	4	6	41	4	4		4	0	8		29	4		30	199+	3	6	6	10	23

Ditch Number	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700
Number of aquatic species	6	4	1	4	8	0	5	1	5	0	0	3	6	0	0	12	4	4	4	5
Number of emergent species	8	4	2	4	4	2	5	4	6	1	2	6	9	2	1	6	7	5	5	7
Number of bank species	0	3	0	2	2	1	3	0	5	1	1	2	4	1	4	0	4	2	2	3
Total number of species	14	11	3	10	14	3	13	5	16	2	3	11	19	3	5	18	15	11	11	15

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720
Azolla filiculoides																				
Callitriche obtusangula						1						1		1						
Callitriche stagnalis/spp																				
Ceratophyllum demersum				1			1												1	
Ceratophyllum submersum	1											1				1				1
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†							1													
Filamentous algae†	1					1		1	1					1		1				1
Groenlandia densa																				
Hydrocharis morsus-ranae	1																			
Lemna gibba														1						
Lemna miniscula																				
Lemna minor	1					1		1			1	1		1		1				1
Lemna trisulca				1		1		1			1	1		1		1			1	1
Myriophyllum spicatum																				1
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus									1				1	1		1			1	1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris				1			1												1	
Alisma plantago-aquatica																				
Apium nodiflorum	1			1				1			1	1					1		1	
Berula erecta	1						1	1	1		1	1		1			1		1	
Butomus umbellatus							1													
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile											1	1								
Glyceria fluitans				1																
Glyceria maxima																	1		1	
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus								1												
Nasturtium officinale agg	1																			
Oenanthe aquatica																				
Oenanthe fistulosa				1			1	1			1						1		1	
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*	1			1		1	1	3			3	1					3		1	
Ranunculus flammula																				
Ranunculus sceleratus						1														
Rumex hydrolapathum																				
Scirpus lacustris						1			1					1						
Scirpus maritimus*		3	2		3	2			3	2			3	3		3		3		3
Sparganium erectum											1	1							1	
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata	1											1								
Grass dom (Agro/Alop)†																				
Atriplex hastata		1	1							1								1		
Aster tripolium			1																	
Carex divisa					1				1	1			1							1
Carex otrubae																				
Carex distans																				
Chenopodium chenopodioides			1																	
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																			1	
Galium palustre								1				1								
Glaux maritima																				
Inula crithmoides																				
Juncus effusus							1												1	
Juncus inflexus				1		1	1	1			1	1	1	1			1		1	1
Juncus gerardii			1							1								1		
Juncus maritima																				
Lycopus europaeus											1				1		1		1	
Lysimachia nummularia																				
Mentha aquatica								1				1								
Myosotis cespitosa	1							1				1								
Myosotis scorpioides																				
Oénanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*															3					
Ditch choked		1															1			
Ditch dry (N=near dry)		1	1			1				1					1			1		
Width (nearest metre)	6	4	4	4	3	1	4	4	10	5	7	5	3	2		3	3	4	5	3
land use north / east	P	A	U	P	P	P	P	P	U	U	P	P	P	P	P	H	P	U	P	H
land use south / west	P	U	U	P	P	P	P	P	P	U	P	P	P	P	P	P	P	U	P	P
Conductivity (µScm x 100)	6			5	35		8	7	58		9	6	38	23		62	5		4	51

Ditch Number	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720
Number of aquatic species	3	0	0	3	0	3	2	2	1	0	2	4	1	5	0	4	0	0	4	5
Number of emergent species	5	1	1	4	1	4	4	5	3	1	6	6	1	3	0	1	5	1	6	1
Number of bank species	1	1	4	1	1	1	2	4	1	3	2	4	2	1	1	0	2	2	4	2
Total number of species	9	2	5	8	2	8	8	11	5	4	10	14	4	9	1	5	7	3	14	8

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI

Ditch survey data (20m sample sections)

English Nature 1995

Ditch number	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740
Azolla filiculoides																				
Callitriche obtusangula															1					
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum			1						1		1			1	1		1	1		
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†																	1			
Filamentous algae†			1	1	1				1		1	1	1		1			1		1
Groenlandia densa																				
Hydrocharis morsus-ranae							1	1												
Lemna gibba				1																
Lemna miniscula																				
Lemna minor			1	1	1	1	1		1		1	1	1	1	1		1	1		
Lemna trisulca			1	1	1				1			1	1	1				1		
Myriophyllum spicatum			1				1				1							1		
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus								1												
Potamogeton natans								1								1				
Potamogeton pectinatus			1	1	1		1	1	1			1	1	1	1		1	1		
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica							1	1				1			1					
Apium nodiflorum						1	1	1			1									
Berula erecta					1	1	1	1				1	1	1	1	1	1	1		
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris							1	1					1			1				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																1				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus							1													
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa							1	1												
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*						2	1		3										3	3
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris		1	1							1		1	1							
Scirpus maritimus*	3	2	3	3	3				1	3	3	2	3	2	3		2	2		2
Sparganium erectum							1	1								1				
Typha angustifolia				1								1		1						1
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				1
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata	1	1								1										
Aster tripolium																				
Carex divisa					1				1				1							
Carex otrubae												1			1		1			
Carex distans																				
Chenopodium chenopodioides																				1
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum							1													
Galium palustre							1	1												
Glaux maritima																	1			
Inula crithmoides																				
Juncus effusus								1				1				1				
Juncus inflexus			1		1	1	1	1	1		1	1				1				
Juncus gerardii	1									1				1						1
Juncus maritima															1			1		1
Lycopus europaeus							1	1												
Lysimachia nummularia																				
Mentha aquatica						1	1	1								1				
Myosotis cespitosa							1	1												
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica							1													
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara														1						
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*						2						1							1	
Ditch choked	1					1													1	1
Ditch dry (N=near dry)	1	1								1					N				1	N
Width (nearest metre)	2	5	3	2	4	3	4	4	4	2	3	3	3	3	3	3	4	3	4	5
land use north / east	U	U	H	P	H	P	P	P	U	U	P	P	H	H	F	P	P	P	U	P
land use south / west	U	U	P	P	H	P	P	P	H	U	H	P	H	H	P	P	P	P	U	P
Conductivity (µScm x 100)			68	48	42	14	5	4	68		46	39	53	62	47	4	44	48		95

Ditch Number	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740
Number of aquatic species	0	0	5	4	3	1	4	4	4	0	3	3	3	4	4	1	3	5	0	0
Number of emergent species	1	2	2	2	2	3	8	6	2	2	2	5	4	3	3	4	2	2	1	4
Number of bank species	2	1	1	0	2	2	7	6	2	2	1	3	1	2	2	3	2	1	0	3
Total number of species	3	3	8	6	7	6	19	16	8	4	6	11	8	9	9	8	7	8	1	7

† **Excluded from totals**

D = dominant A = abundant

* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%

Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum		1	1										1				1	1		
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†		1					1			1	1		1	1			1			
Filamentous algae†		1	1								1		1	1					1	1
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor		1	1	1							1	D	1	1				1	1	1
Lemna trisulca		1	1								1							1	1	1
Myriophyllum spicatum							1			1	1			1		1	1			1
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus		1	1	1			1			1	1		1	1		1	1	1		1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii											1					1	1			
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum																				
Berula erecta											1	1						1		1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris							1			1						1	1			
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																			1	
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*						3														
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris							1													
Scirpus maritimus*	2	2	2	2	3	1	2	3	2	2	2	2	2	2	2	2	2	2	3	2
Sparganium erectum							1			1						1				
Typha angustifolia					1					1						1				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata	1			1		1		1	1	1					1		1			1
Aster tripolium																				
Carex divisa									1				1							
Carex otrubae							1			1	1			1		1	1			1
Carex distans		1																		
Chenopodium chenopodioides						1	1								1					
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus																				
Juncus gerardii	1	1	1	1		1				1	1	1	1	1	1	1	1	1		
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara											1									
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*											1									1
Ditch choked					1	1														
Ditch dry (N=near dry)					1	1		1	1							N				
Width (nearest metre)	5	4	4	3	1	4	3	2	3	3	3	3	5	3	6	3	3	3	6	3
land use north / east	U	P	P	P	F	P	P	F	F	A	P	P		U	P	A	P	P	P	U
land use south / west	U	P	P	P	P	P	U	U	U	P	U	P	P	P	U	P	P	U	P	P
Conductivity (µScm x 100)	199+	43	55	49			47			49	55	53	44	51	199+	52	39	51	33	52

Ditch Number	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760
Number of aquatic species	0	4	4	2	0	0	2	0	0	2	5	1	3	3	0	3	4	4	2	4
Number of emergent species	1	1	1	1	2	2	4	1	1	4	2	2	1	1	1	4	2	2	2	2
Number of bank species	2	2	1	2	0	3	2	1	2	3	3	1	2	2	3	2	3	1	0	2
Total number of species	3	7	6	5	2	5	8	2	3	9	10	4	6	6	4	9	9	7	4	8

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780
Azolla filiculoides																				
Callitriche obtusangula					1								1		1					
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum											D									
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†	1				1															
Filamentous algae†	D							1	1		1							A		
Groenlandia densa																				
Hydrocharis morsus-ranae										1										
Lemna gibba																				
Lemna miniscula																				
Lemna minor	1							1			1						D			
Lemna trisulca					1			1		1										
Myriophyllum spicatum									1											
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus							1	1	1									1		
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii									1											
Ranunculus trichophyllus																				
Ranunculus seedling	1							1												
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum										1					1					
Berula erecta													1				1			
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris									1											
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris										1										
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																	1			
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*						3				3										3
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum								1												
Scirpus lacustris											1									
Scirpus maritimus*	2	3	2	3	2	2	2	2	2		2	3	3		1			2	2	
Sparganium erectum										1										
Typha angustifolia										1					D					
Typha latifolia																	1			
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata			1	1					1		1	1	1						1	
Aster tripolium																				
Carex divisa	1					1			1											
Carex otrubae										1				1	1					
Carex distans																				
Chenopodium chenopodioides			1	1				1	1											
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																1	1			
Galium palustre										1										
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																	1			
Juncus inflexus									1	1				1	1		1			1
Juncus gerardii	1	1		1		1	1	1	1									1		
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																	1			
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																3	2			1
Ditch choked		1								1				1	1					1
Ditch dry (N=near dry)		1	1	1			N					1	1	1	1	1			1	1.
Width (nearest metre)	4	3	2	3	4	10	5	3	4	3	5	2	5	1	4	3	2	5	2	4
land use north / east	P	P	U	P	P	P	P	P	P	P	U	P	F	A	P	F	P	P	F	P
land use south / west	P	P	U	P	P	P	P	P	P	P	U	U	P	F	P	P	U	P	U	
Conductivity (µScm x 100)	59				58	34	55	48	35	17	35						9	52		

Ditch Number	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780
Number of aquatic species	2	0	0	0	2	0	1	4	3	2	2	0	1	0	1	0	1	1	0	0
Number of emergent species	1	1	1	1	1	2	1	2	2	5	2	1	2	0	3	0	3	1	1	1
Number of bank species	2	1	2	3	0	2	1	2	5	3	1	1	1	2	2	1	4	1	1	1
Total number of species	5	2	3	4	3	4	3	8	10	10	5	2	4	2	6	1	8	3	2	2

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800
Azolla filiculoides																				
Callitriche obtusangula	1							1						1						1
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum																				
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†					1					1			1	1	1		1	1		
Filamentous algae†	1				1	D		1		1	1	1	1	1	1		1	1	1	1
Groenlandia densa																				
Hydrocharis morsus-ranae	1							1												
Lemna gibba							1					1								
Lemna miniscula																				
Lemna minor							1	1				1	1	1				1	D	1
Lemna trisulca							1	1				1	1	1				1	1	1
Myriophyllum spicatum	1							1						1						
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus	1				1		1					1		1	1	1	1			1
Potamogeton pusillus/berchtoldii								1						1						
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling	1																			
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica	1							1						1						
Apium nodiflorum	1						1							1						
Berula erecta	1						1					1	1					1	1	1
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1		1				1	1				1								
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																1				
Iris pseudacorus																				
Juncus articulatus												1								
Nasturtium officinale agg								1											1	1
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*			2					3			3						2	1		
Ranunculus flammula																				
Ranunculus sceleratus			1							1				1	1					
Rumex hydrolapathum						1														
Scirpus lacustris	1		1				1			1		1	1			1		1		
Scirpus maritimus*		1	1	2	2	2	1		2	2	1	2	2	2	2	2	2	2		1
Sparganium erectum	2							1					1					1		1
Typha angustifolia	1		D								1							1		
Typha latifolia	1					1				1										
Veronica anagallis-aquatica																				
Veronica catenata	1							1						1						
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata		1				1			1	1	1			1			1			
Aster tripolium																				
Carex divisa							1							1						
Carex otrubae	1										1					1				
Carex distans																				
Chenopodium chenopodioides		1		1					1											
Chenopodium rubrum										1				1						
Crassula helmsii																				
Epilobium hirsutum			1																	
Galium palustre																				
Glaux maritima															1		1			
Inula crithmoides																				
Juncus effusus																1				
Juncus inflexus			1				1	1			1					1			1	1
Juncus gerardii		1	1		1				1	1			1		1		1			
Juncus maritima							1													
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																			1	
Salicornia sp.																				
Samolus valerandi									1										1	1
Solanum dulcamara							1													1
Spartina anglica																				
Spergularia marina		1																		
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																			2	2
Ditch choked	1		1				1				1									
Ditch dry (N=near dry)		1							1											
Width (nearest metre)	4	1	4	20	10	4	2	5	1	4	5	3	2	4	6	4	5	2	3	3
land use north / east	P	P	P	P	U	P	P	P	A	P	P	U	P	P	P	P	P	P	P	P
land use south / west	P	P	U	P	P	U	U	P	F	U	P	P	P	P	P	P	P	U	U	U
Conductivity (µScm x 100)	25		52	199+	99	22	44	19		14	28	9	10	21	118	31	158	10	8	8

Ditch Number	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800
Number of aquatic species	5	0	0	0	1	0	4	6	0	0	0	4	2	6	1	1	1	2	2	4
Number of emergent species	9	1	6	1	1	3	5	6	1	4	3	5	4	5	2	3	2	6	2	4
Number of bank species	1	4	3	1	1	1	4	1	4	3	3	0	1	3	2	3	3	0	3	3
Total number of species	15	5	9	2	3	4	13	13	5	7	6	9	7	14	5	7	6	8	7	11

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820
Azolla filiculoides																				
Callitriche obtusangula								1					1							
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum											1									
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†																			1	
Filamentous algae†	1		1	1	1			1	1	1			1			1		1	1	
Groenlandia densa																				
Hydrocharis morsus-ranae								1					1							
Lemna gibba					1															
Lemna miniscula																				
Lemna minor	1			1					1	1	1		1			1		1	1	
Lemna trisulca	1			1	1				1	1	1		1					1	1	
Myriophyllum spicatum	1		1								1						1	1	1	
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus	1				1	1			1	1	1		1	1				1		
Potamogeton pusillus/berchtoldii													1					1		
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling								1										1		
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica								1					1							
Apium nodiflorum					1						1								1	
Berula erecta	1			1	1			1	1	1			1			1				
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1				1			1		1									1	1
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris								1					1							
Iris pseudacorus																				
Juncus articulatus	1							1					1							
Nasturtium officinale agg								1					1						1	
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*	1								3			3	2	2	3		1		2	
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum													1							
Scirpus lacustris	1			1							1							1	1	
Scirpus maritimus*	2	3	3	3	2	2	3	1		3	2	1	2	1		2	3	1		1
Sparganium erectum					1				3				1							
Typha angustifolia								1												
Typha latifolia	1							1					1							
Veronica anagallis-aquatica																				
Veronica catenata								1					1							
Veronica scutellata																				
Grass dom (Agro/Alop)†																				1
Atriplex hastata			1												1	1	1			
Aster tripolium						1														
Carex divisa	1										1		1							
Carex otrubae	1				1			1			1	1								
Carex distans								1					1					1		
Chenopodium chenopodioides																				
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum		1											1							
Galium palustre																				
Glaux maritima						1														
Inula crithmoides																				
Juncus effusus		1																		
Juncus inflexus	1	1			1			1			1	1	1		1				1	1
Juncus gerardii	1					1								1				1		
Juncus maritima										1					1		1			
Lycopus europaeus													1							
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica								1					1							
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*		1						1			1		1		2	1		1		
Ditch choked		1					1					1			1					
Ditch dry (N=near dry)		1					1					1			1					1
Width (nearest metre)	3	3	4	2	3	5	4	5	10	2	3	4	10	5	1	2	5	3	5	3
land use north / east	P	F	P	P	P	P	P	P	U	P	P	P	U	U	U	U	P	U	P	P
land use south / west	P	U	P	P	H	P	F	P	P	P	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)	18		184		19	199+		5	20	11	39		5	199+		17	144	24	27	

Ditch Number	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820
Number of aquatic species	4	0	1	2	3	1	0	3	3	3	5	0	6	1	0	1	1	6	3	0
Number of emergent species	7	1	1	3	5	1	1	10	3	3	3	2	11	2	1	2	2	2	5	2
Number of bank species	4	3	1	0	2	3	0	4	0	1	3	2	6	1	3	1	2	2	1	1
Total number of species	15	4	3	5	10	5	1	17	6	7	11	4	23	4	4	4	5	10	9	3

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840
Azolla filiculoides																				
Callitriche obtusangula				1	1															
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum					1			1			1									
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†					1			1		1	1	1				1				
Filamentous algae†															1					1
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																			1	
Lemna miniscula																				
Lemna minor		1	1		1	1	1	1		1	1			1	1			1	1	1
Lemna trisulca							1							1	1				1	1
Myriophyllum spicatum									1				1				1			
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus																				
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum				1			1											1		
Berula erecta		1					1							1	1				1	
Butomus umbellatus																				
Carex riparia						1	1				1							1		
Eleocharis palustris				1			1													
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima						1														
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg						1														
Oenanthe aquatica																				
Oenanthe fistulosa			1											1						
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*	3	3	3		3	3	3	1		2	3			3	3	3		3	1	3
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris							1	1				1			1	1				
Scirpus maritimus*	1			1			1	1	3	2		3	3		1	3	3	2		2
Sparganium erectum																				
Typha angustifolia						1	1				1				1					
Typha latifolia		1																		
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata						1			1				1				1			
Aster tripolium																				
Carex divisa																				
Carex otrubae									1											
Carex distans																				
Chenopodium chenopodioides													1							
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum						1														
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																			1	1
Juncus inflexus	1	1	1	1	1		1	1		1	1			1	1			1	1	1
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica	1																1			
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara						1			1											
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*	1										1									
Ditch choked		1	1			1	1													
Ditch dry (N=near dry)				1																
Width (nearest metre)	6	2	3	3	6	4	3	10	5	6	2	8	5	2	2	6	5	2	2	2
land use north / east	U	P	P	P	P	U	P	P	P	P	P	P	P	P	P	P	P	P	P	P
land use south / west	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Conductivity (µScm x 100)	170	25	32		28	6	30	26	134	28	26	33	123	27	23	37	129	26	33	28

Ditch Number	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840
Number of aquatic species	0	1	1	1	3	1	2	2	1	1	2	0	1	2	2	0	1	1	3	2
Number of emergent species	2	3	2	3	1	5	8	3	1	2	3	2	1	3	5	3	1	4	2	2
Number of bank species	2	1	1	1	1	3	1	1	3	1	1	0	2	1	1	0	2	1	2	2
Total number of species	4	5	4	5	5	9	11	6	5	4	6	2	4	6	8	3	4	6	7	6

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860
Azolla filiculoides																				
Callitriche obtusangula						1								1						1
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum				1		1			1										1	
Elodea canadensis							1							D						
Elodea nuttallii																				
Enteromorpha sp†												1								
Filamentous algae†		1	1	1			1		1	1		1		1			1	1		1
Groenlandia densa																				
Hydrocharis morsus-ranae							1							1					1	
Lemna gibba																				
Lemna miniscula																				
Lemna minor				1	1	1	1	1	1				1	1	1	1		1	1	1
Lemna trisulca				1		1		1	1	1					1	1		1	1	1
Myriophyllum spicatum	1					1	1					1		1			1			1
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus							1													
Potamogeton natans																				
Potamogeton pectinatus		1	1			1					1	1				1	1			1
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling				1												1				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica													1			1				
Apium nodiflorum								1												1
Berula erecta				1				1	1	1					1	1		1		
Butomus umbellatus																				
Carex riparia															1					
Eleocharis palustris				1										1		1		1	1	1
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg													1							
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*		2	2	1	3	3		3	2	3	2				1					
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris																1				
Scirpus maritimus*	3	2	2					3			2	2		1	1	1	1	1		2
Sparganium erectum							1						1	1		1			1	
Typha angustifolia																				
Typha latifolia							1													
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata	1																			
Aster tripolium																				
Carex divisa			1				1		1							1				1
Carex otrubae													1	1		1				
Carex distans							1							1						
Chenopodium chenopodioides																				
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum							1													
Galium palustre														1						
Glaux maritima																				
Inula crithmoides																				
Juncus effusus								1								1				
Juncus inflexus		1	1	1		1	1	1	1	1			1	1	1	1		1	1	1
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara													1						1	
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*													3			1				
Ditch choked					1			1					1		1	.				
Ditch dry (N=near dry)	1							1							N	N				
Width (nearest metre)	5	3	3	3	1	2	5	1	2	2	3	4	2	4	1	3	3	1	3	3
land use north / east	P	P	P	P	P	P	P	U	P	P	P	A	H	P	P	P	U	P	P	P
land use south / west	P	P	P	P	P	P	A	P	P	P	P	U	A	H	P	P	A	P	H	P
Conductivity (µScm x 100)		161	163	29	84	28	5		35	30	171	97	6	4	40	26	135	53	24	34

Ditch Number	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860
Number of aquatic species	1	1	1	4	1	6	5	2	3	1	1	2	1	5	2	4	2	2	4	5
Number of emergent species	1	2	2	3	1	1	2	4	2	2	2	1	3	3	4	6	1	3	2	3
Number of bank species	1	1	2	1	0	1	4	2	2	1	0	0	3	4	1	4	0	1	2	2
Total number of species	3	4	5	8	2	8	11	8	7	4	3	3	7	12	7	14	3	6	8	10

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880
Azolla filiculoides																				
Callitriche obtusangula																				1
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum		1			D			D		1							D			
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†				1												1				
Filamentous algae†					1		1	1		1	1					1	1			
Groenlandia densa																				
Hydrocharis morsus-ranae					1			1									1			
Lemna gibba																				
Lemna miniscula																				
Lemna minor			1		1			1		1			1	1			1			
Lemna trisulca			1					1									1			
Myriophyllum spicatum		1					1			1	1	1	1	1		1				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus				1			1				1		1	1		1				
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris							1													
Alisma plantago-aquatica					1															
Apium nodiflorum								1		1										
Berula erecta		1	1		1												1			
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris		1			1			1		1	1						1			
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg					1												1			
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																		1		
Phragmites australis*	2		3	2		2	3		3					3	3	3				
Ranunculus flammula																				
Ranunculus sceleratus					1					1										
Rumex hydrolapathum																				
Scirpus lacustris																	1			
Scirpus maritimus*	1	2	1		1		1	2	3	2	2	2	2	1		1	2	1	3	2
Sparganium erectum					1												1	1		1
Typha angustifolia																		1		1
Typha latifolia																			1	
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata									1									1		
Aster tripolium																				
Carex divisa	1				1															
Carex otrubae																		1		
Carex distans																				
Chenopodium chenopodioides									1											
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																		1		1
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus			1					1									1	1		
Juncus gerardii			3								1		1							
Juncus maritima																				
Lycopus europaeus									1									1		
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																		1		1
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																		1		
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre										1										
Scrub cover*																				
Ditch choked														1	1			1	1	
Ditch dry (N=near dry)												1						1	N	1
Width (nearest metre)	3	3	3	4	4	3	3	4	10	4	4	3	20	3	4	3	5	3	8	4
land use north / east	P	P	P	P	P	P	U	P	U	P	P	U	P	P	U	A	P	U	F	A
land use south / west	P	P	P	P	P	P	U	P	U	P	P	A	P	P	P	U	P	U	U	U
Conductivity (µScm x 100)	171	78	34	192	4	182	143	5	150	20	36		29	42	108	97	5		118	

Ditch Number	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880
Number of aquatic species	0	2	2	1	3	0	3	4	0	3	2	1	3	3	0	2	4	0	0	1
Number of emergent species	2	3	3	1	7	1	2	3	2	4	2	1	1	2	1	2	6	4	2	3
Number of bank species	1	0	2	0	1	0	0	1	3	1	1	0	1	0	0	0	1	7	0	2
Total number of species	3	5	7	2	11	1	5	8	5	8	5	2	5	5	1	4	11	11	2	6

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900
Azolla filiculoides																				
Callitriche obtusangula				1			1		1									1		
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum											1	1	1	1					1	1
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†						1				1							1			
Filamentous algae†		1	1			1					1	1	1	1			1		1	1
Groenlandia densa																	1			
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor	1	1	1	1		1											1			
Lemna trisulca	1			1													1			
Myriophyllum spicatum			1								1	1							1	
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																	1			
Potamogeton natans																				
Potamogeton pectinatus																				
Potamogeton pusillus/berchtoldii																	1			
Ranunculus baudotii			1																	
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris										1										
Alisma plantago-aquatica									1											
Apium nodiflorum	1																			
Berula erecta																1	1			
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris	1		1									1								
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																	1			
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg	1																1			
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*	3			1	3				3	3					3	3	3			
Ranunculus flammula									1											
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris	1			1																
Scirpus maritimus*		3	1	1	3	1	1	1	1	3	1	3	3	3				3	3	3
Sparganium erectum				1			1		1								1	1		
Typha angustifolia		1		1				D												
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata		1			1			1												
Aster tripolium																				
Carex divisa																				
Carex otrubae				1		1	1				1	1						1	1	
Carex distans									1											
Chenopodium chenopodioides					1															
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum							1	1		1							1			
Galium palustre																				
Glaux maritima														1						
Inula crithmoides																				
Juncus effusus				1					1											
Juncus inflexus			1	1		1	1		1											
Juncus gerardii														1						
Juncus maritima																				
Lycopus europaeus							1		1				1					1	1	
Lysimachia nummularia									1											
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides									1											
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica								1	1											
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara		1		1			1													
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*				1				2								1				
Ditch choked	1	1		1				1								1				
Ditch dry (N=near dry)		N		1			1	1	1						1	1		1		
Width (nearest metre)	5	4	4	3	10	2	3	10	2	3	3	4	3	15	5	10	4	5	9	4
land use north / east	U	U	P	P	U	P	A	F	P	A	P	P	U	P	U	F	P	A	P	P
land use south / west	P	U	P	A	U	P	P	U	A	U	P	P	U	P	A	U	U	P	P	P
Conductivity (µScm x 100)	15	30	10		132	8				82	13	10	30	30			11		28	38

Ditch Number	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900
Number of aquatic species	2	1	3	3	0	1	1	0	1	1	2	2	1	1	0	0	5	1	2	1
Number of emergent species	5	2	2	5	2	1	2	2	5	2	1	2	1	1	1	2	5	2	1	1
Number of bank species	0	2	1	4	2	2	5	3	7	1	1	1	1	2	0	0	1	2	2	0
Total number of species	7	5	6	12	4	4	8	5	13	4	4	5	3	4	1	2	11	5	5	2

† **Excluded from totals**
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Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920
Azolla filiculoides																				
Callitriche obtusangula	1					1			1											
Callitriche stagnalis/spp																				
Ceratophyllum demersum																				
Ceratophyllum submersum			1		1				1			1							1	
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†							1	1						1						
Filamentous algae†	1		1	1	1			1		1	1		1		1					
Groenlandia densa																				
Hydrocharis morsus-ranae																				
Lemna gibba																				
Lemna miniscula																				
Lemna minor		D							1											
Lemna trisulca			1		1							1								
Myriophyllum spicatum							1	1	1	1	1	1	1		1	1			1	
Myriophyllum verticillatum																				
Nymphaea alba																			1	
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus																				
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																			1	
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris							1							1						
Alisma plantago-aquatica		1																		
Apium nodiflorum		1																		
Berula erecta		1																		
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris																				
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima		1																		
Hippuris vulgaris												1								
Iris pseudacorus																				
Juncus articulatus																				
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*		3				3	1	1									2			
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris	1																			
Scirpus maritimus*	3		3		3		3	2	3	3	2	3	3	3	3	3	2	3	3	3
Sparganium erectum																				
Typha angustifolia											1					1				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																			1	
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																		1		1
Aster tripolium																				
Carex divisa						1							1							
Carex otrubae				1																
Carex distans																				
Chenopodium chenopodioides								1										1	1	
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre																				
Glaux maritima			1					1	1			1								
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus					1			1			1									
Juncus gerardii				1	1			1				1								
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica											1							1		
Salicornia sp.																				
Samolus valerandi						1										1				
Solanum dulcamara		1																		
Spartina anglica																				
Spergularia marina																				
Spergularia media								1												
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*		2																		
Ditch choked																				
Ditch dry (N=near dry)																	1	N		1
Width (nearest metre)	3	2	5	4	5	5	1	4	3	8	5	15	10	2	12	5	5	8	12	3
land use north / east	P	U	P	P	P	P	A	P	P	P	P	U	P	A	P	P	U	U	U	A
land use south / west	P	U	P	P	P	P	U	P	P	P	P	P	P	U	P	P	A	U	P	P
Conductivity (µScm x 100)	36	10	38	30	22	30	27	26	26	27	25	19	23	13	25	23		138	25	

Ditch Number	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920
Number of aquatic species	1	1	2	0	2	1	2	1	4	1	1	3	1	1	1	1	0	0	4	0
Number of emergent species	2	5	1	0	1	1	2	2	1	1	2	2	1	1	1	2	2	1	2	1
Number of bank species	0	1	1	2	2	2	0	5	1	0	2	2	1	0	0	1	0	3	1	1
Total number of species	3	7	4	2	5	4	4	8	6	2	5	7	3	2	2	4	2	4	7	2

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/spp																				
Ceratophyllum demersum																	1	1	1	
Ceratophyllum submersum				1																
Elodea canadensis																				
Elodea nuttallii																				
Enteromorpha sp†	1				1												1			
Filamentous algae†	1	1	1	1	1		1													
Groenlandia densa																				
Hydrocharis morsus-ranae																	1			
Lemna gibba																		1		
Lemna miniscula																				
Lemna minor			1	1								1					1	1		
Lemna trisulca												1		1		1	1			
Myriophyllum spicatum	1	1	1	1	1	1	1	1	1											
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus		1	1		1	1		1	1								1			
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																				
Utricularia vulgaris																				
Zannichellia palustris	1																			
Alisma plantago-aquatica																1				
Apium nodiflorum										1		1	1				1			
Berula erecta												1		1		1	1			
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris												1				1	1			
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus										1										
Nasturtium officinale agg																				
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*							1			3		3	2	3	3		3	3	3	3
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris																1				
Scirpus maritimus*	3	1	3	2	2	1	3	3	3	2	2	1	3			2				
Sparganium erectum										1	1					1				
Typha angustifolia		1																		
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata			1																	
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata	1		1	1			1	1	1		1		1							
Aster tripolium																				
Carex divisa				1							1	1					1			1
Carex otrubae										1	1		1						1	
Carex distans																				
Chenopodium chenopodioides					1	1		1	1											
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum										1	1									
Galium palustre																				
Glaux maritima				1		1														
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus											1					1		1		
Juncus gerardii				1		1		1					1							
Juncus maritima																				
Lycopus europaeus					1															
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa																				
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked										1			1	1	1		1	1	1	1
Ditch dry (N=near dry)										1		N	1	N	1				N	N
Width (nearest metre)	1	5	12	6	6	2	4	5	5	3	2	3	2	3	3	2	4	3	3	2
land use north / east	A	U	U	P	U	P	U	A	A	P	P	P	P	P	P	P	P	P	H	P
land use south / west	U	U	P	U	U	P	U	P	P	A	U	A	P	A	A	P	P	P	H	U
Conductivity (µScm x 100)	103	28	33	23	30	43	39	38	40		34	35		19		32	10	11	12	25

Ditch Number	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940
Number of aquatic species	2	2	3	3	2	2	1	2	2	0	0	2	0	1	0	1	5	3	1	0
Number of emergent species	1	2	2	1	1	1	2	1	1	5	2	5	3	2	1	6	4	1	1	1
Number of bank species	1	0	1	4	2	3	1	3	2	2	5	1	3	0	0	1	1	1	1	1
Total number of species	4	4	6	8	5	6	4	6	5	7	7	8	6	3	1	8	10	5	3	2

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960
Azolla filiculoides																				
Callitriche obtusangula		1		1			1		1	1	1			1					1	
Callitriche stagnalis/spp																				
Ceratophyllum demersum		1	1	1			1		1	1	1	1	1	1	1	1			1	
Ceratophyllum submersum									1											
Elodea canadensis																				
Elodea nuttallii				1			1		1	1				1		1			1	
Enteromorpha sp†									1	1										
Filamentous algae†			1	1			1		1	1	1			1		1			1	
Groenlandia densa																				
Hydrocharis morsus-ranae			1	1			1		1	1	1	1	1	1	1	1			1	
Lemna gibba																			1	
Lemna miniscula																				
Lemna minor		1	1	1		1	1		1	1	1	1	1	1	1	1	1		1	
Lemna trisulca							1			1	1	1	1		1	1	1		1	
Myriophyllum spicatum				1			1							1						
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus				1								1	1	1					1	
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza											1			1		1				
Utricularia vulgaris																			1	
Zannichellia palustris																				
Alisma plantago-aquatica																			1	
Apium nodiflorum												1		1						
Berula erecta	1	1	1	1					1	1	1	1	1	1	1	1	1		1	
Butomus umbellatus																				
Carex riparia		1						1	1			1			1					
Eleocharis palustris				1					1				1	1	1	1		1		
Equisetum fluviatile			1							1										
Glyceria fluitans				1																
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																			1	
Nasturtium officinale agg							1			1				1						
Oenanthe aquatica																				
Oenanthe fistulosa			1																1	
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*		3	2		3	3	1	3		1	2	1	2		3	3	3	2	2	3
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris																				
Scirpus maritimus*	3									1	1	1	1		1			1		
Sparganium erectum			1	1			1		1	1	1	1	1	1	1					
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex divisa	1					1							1		1			1	1	
Carex otrubae																				
Carex distans																				
Chenopodium chenopodioides																				
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre		1	1																	
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus		1	1	1			1	1	1	1	1	1	1	1	1	1	1		1	
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus									1					1						
Lysimachia nummularia																				
Mentha aquatica			1							1										
Myosotis cespitosa			1	1			1		1	1										
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																				
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara		1																		
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked	1	1			1	1		1									1			1
Ditch dry (N=near dry)	1				1			1										1		N
Width (nearest metre)	2	3	2	10	3	20	4		4	4	5	4	4	10	4	5	2	2	4	3
land use north / east	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	H	U
land use south / west	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	U
Conductivity (µScm x 100)		14	16	5		9	8	1	8	8	6	5	7	5	5	6	12		8	26

Ditch Number	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960
Number of aquatic species	0	3	3	7	0	1	7	0	6	6	6	5	5	8	4	6	2	0	9	0
Number of emergent species	2	3	5	4	1	1	3	2	4	6	4	6	5	5	6	3	2	3	5	1
Number of bank species	1	3	4	2	0	1	2	1	3	3	1	1	2	2	2	1	1	1	2	0
Total number of species	3	9	12	13	1	3	12	3	13	15	11	12	12	15	12	10	5	4	16	1

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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Ditch number	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980
Azolla filiculoides																				
Callitriche obtusangula		1	1					1						1				1		1
Callitriche stagnalis/spp																				
Ceratophyllum demersum		1	1	1			1	1				1		1			1	1		1
Ceratophyllum submersum																				
Elodea canadensis																				
Elodea nuttallii		1												1						
Enteromorpha sp†		1																		1
Filamentous algae†		1	1				1	1				1		1			1	1		1
Groenlandia densa																				
Hydrocharis morsus-ranae		1	1	1			1	1				1		1	1		1	1		1
Lemna gibba																				
Lemna miniscula																				
Lemna minor		1			1		1	1			1	1			1		1	1		1
Lemna trisulca				1								1			1	1	1	1		
Myriophyllum spicatum														1						
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																		1		
Potamogeton pectinatus				1			1							1						
Potamogeton pusillus/berchtoldii														1						
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza																		1		
Utricularia vulgaris								1				1					1			
Zannichellia palustris																				
Alisma plantago-aquatica		1	1				1	1												
Apium nodiflorum			1								1			1						
Berula erecta		1	1	1	1	1	1	1			1	1		1	1		1	1		1
Butomus umbellatus																				
Carex riparia				1			1					1					1	1		
Eleocharis palustris		1	1	1				1			1			1	1		1	1		1
Equisetum fluviatile		1					1	1												1
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus		1		1			1	1		1	1						1	1		1
Nasturtium officinale agg		1																1		1
Oenanthe aquatica																				
Oenanthe fistulosa		1	1					1			1									
Oenanthe silaifolia																				
Phalaris arundinacea														1						
Phragmites australis*	2	2	3	3	3	2		1	3	3			3	1	2	3		1	3	2
Ranunculus flammula																				
Ranunculus sceleratus											1									
Rumex hydrolapathum																				
Scirpus lacustris	1																			
Scirpus maritimus*	2					2		1	1			1		1	1					1
Sparganium erectum		1		1			1	1						1	1		1	1		1
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex divisa	1	1	1		1	1	1			1	1				1		1	1		
Carex otrubae				1				1												1
Carex distans																				
Chenopodium chenopodioides																				
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum				1						1										
Galium palustre		1	1				1	1				1		1			1	1		
Glaux maritima																				
Inula crithmoides																				
Juncus effusus								1												
Juncus inflexus		1	1	1		1	1	1	1	1	1	1		1			1	1		1
Juncus gerardii								1												
Juncus maritima																				
Lycopus europaeus																		1		
Lysimachia nummularia																				
Mentha aquatica		1					1													
Myosotis cespitosa		1	1				1	1			1							1		
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica	1									1	1									
Salicornia sp.																				
Samolus valerandi							1													
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*													1		1				1	
Ditch choked	1			1	1	1			1	1	1		1			1			1	
Ditch dry (N=near dry)	N					1			1	1			1			N			1	
Width (nearest metre)	2	6	6	4	20	1	3	3	3	1	1	2	3	10	4	2	2	3	4	3
land use north / east	P	H	H	P	P	P	P	H	U	H	H	P	P	U	P	P	P	P	U	P
land use south / west	U	P	H	P	P	P	P	H	P	U	H	P	U	P	P	P	P	P	U	P
Conductivity (µScm x 100)	80	7	7	6	8		11	7			7	7		5	8	28·	8	6		7

Ditch Number	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980
Number of aquatic species	0	5	3	4	1	0	4	5	0	0	1	5	0	7	3	1	5	7	0	4
Number of emergent species	3	9	6	6	2	3	6	9	2	2	6	3	1	7	5	1	5	7	1	8
Number of bank species	2	5	4	3	1	2	6	6	1	4	4	2	0	2	1	0	3	5	0	2
Total number of species	5	19	13	13	4	5	16	20	3	6	11	10	1	16	9	2	13	19	1	14

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
Azolla filiculoides																				
Callitriche obtusangula				1	1		1								1					
Callitriche stagnalis/spp																				
Ceratophyllum demersum	1	1	1	1		1	1			1	1				1		1			
Ceratophyllum submersum																				
Elodea canadensis																				
Elodea nuttallii							1													
Enteromorpha sp†	1												1		1				1	
Filamentous algae†	1		1	1		1	1		1	1			1		1					
Groenlandia densa																				
Hydrocharis morsus-ranae	1	1	1	1	1	1	1			1	1				1		1			
Lemna gibba																				
Lemna miniscula																				
Lemna minor		1	1	1	1	1	1			1	1				1		1			
Lemna trisulca		1	1	1		1				1	1				1		1	1		
Myriophyllum spicatum							1						1		1				1	
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus							1		1				1							
Potamogeton pusillus/berchtoldii							1								1					
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza							1								1					
Utricularia vulgaris	1	1	1	1		1				1	1						1			
Zannichellia palustris																				
Alisma plantago-aquatica	1				1												1			
Apium nodiflorum					1															
Berula erecta	1	1	1	1		1	1			1	1				1					
Butomus umbellatus																				
Carex riparia	1	1	1		1					1	1						1			
Eleocharis palustris		1	1	1		1				1										
Equisetum fluviatile		1			1	1				1							1			
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus	1	1	1	1		1				1	1						1			
Nasturtium officinale agg		1		1	1	1	1													
Oenanthe aquatica																				
Oenanthe fistulosa	1		1			1				1	1						1			
Oenanthe silaifolia																				
Phalaris arundinacea															1					
Phragmites australis*	3	1		3	2	2	2	3	3	2		3	3	3	2	3	1	3	3	3
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris											1						1			
Scirpus maritimus*							1	1					3		1				1	
Sparganium erectum	1	1	1	1	1	1	1			1							1			
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				
Aster tripolium																				
Carex divisa				1							1		1				1			
Carex otrubae															1		1			
Carex distans																				
Chenopodium chenopodioides																				
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum														1						
Galium palustre	1	1	1	1	1	1					1									
Glaux maritima																				
Inula crithmoides																				
Juncus effusus	1				1															
Juncus inflexus	1	1	1	1	1	1	1			1	1			1	1		1			
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus				1							1									
Lysimachia nummularia																				
Mentha aquatica				1							1									
Myosotis cespitosa	1			1	1		1													
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica														1						
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*								1												
Ditch choked					1			1				1		1		1	1	1		1
Ditch dry (N=near dry)								1				N		1		1				
Width (nearest metre)	4	2	3	3	4	3	10	8	8	2	4	3	8	3	10	5	4	8	8	8
land use north / east	P	P	P	P	P	P	U	U	H	P	P	U	H	P	U	U	H	H	H	H
land use south / west	H	P	P	P	P	P	P	H	H	P	P	U	H	U	P	U	P	H	H	H
Conductivity (µScm x 100)	23	7	8	6	8	5	7		60	6	8	73	44		4		10	40	74	10

Ditch Number	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
Number of aquatic species	3	5	5	6	3	5	9	0	1	5	5	0	2	0	8	0	5	1	1	0
Number of emergent species	7	8	6	6	7	8	5	2	1	8	5	1	2	1	4	1	8	1	2	1
Number of bank species	4	2	2	6	4	2	2	0	0	1	5	0	1	3	2	0	3	0	0	0
Total number of species	14	15	13	18	14	15	16	2	2	14	15	1	5	4	14	1	16	2	3	1

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

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English Nature 1995

Ditch number	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020
Azolla filiculoides																				
Callitriche obtusangula			1																	
Callitriche stagnalis/spp																				
Ceratophyllum demersum																		1		
Ceratophyllum submersum																		1		
Elodea canadensis																				
Elodea nuttallii			1															1		
Enteromorpha sp†				1																
Filamentous algae†			1	1		1		1				1						1		
Groenlandia densa																				
Hydrocharis morsus-ranae	1	1	1								1							1		
Lemna gibba																				
Lemna miniscula																				
Lemna minor	1	1	1	1		1		1			1	1				1		1	1	1
Lemna trisulca					1	1	1			1	1			1						1
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus			1	1													1			
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling												1								
Spirodela polyrhiza								1										1		
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica	1		1																	
Apium nodiflorum																				
Berula erecta	1	1	1	1	1		1								1	1			1	1
Butomus umbellatus																				
Carex riparia	1																			
Eleocharis palustris	1																			
Equisetum fluviatile																			1	1
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus	1				1															
Nasturtium officinale agg	1		1																	
Oenanthe aquatica																				
Oenanthe fistulosa					1									1						
Oenanthe silaifolia																			1	
Phalaris arundinacea			1																	
Phragmites australis*	1	3	2		3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3
Ranunculus flammula																				
Ranunculus sceleratus			1																	
Rumex hydrolapathum																				
Scirpus lacustris	1																		1	
Scirpus maritimus*			1	3				3				3	1				1	3		
Sparganium erectum	1		1																	
Typha angustifolia			1																	
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†		1																		
Atriplex hastata																				
Aster tripolium																				
Carex divisa	1	1	1					1		1	1		1				1		1	1
Carex otrubae																				
Carex distans																				
Chenopodium chenopodioides																				
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum																				
Galium palustre	1																			
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																			1	
Juncus inflexus	1	1	1								1				1				1	1
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa	1																			
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica					1															
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked	1	1			1	1	1	1	1	1	1	1	1	1	1	1			1	1
Ditch dry (N=near dry)							1		1						1					1
Width (nearest metre)	3	4	15	6	8	4	4	4	10	5	4	8	5	4	6	10	6	15	4	4
land use north / east	P	H	U	H	H	H	H	H	H	H	H	H	H	H	P	H	H	U	P	P
land use south / west	P	H	H	H	H	H	H	H	H	H	H	H	H	H	P	H	H	H	P	P
Conductivity (µScm x 100)	8	8	7	22	31	61		65		7	7	18	100	12		6	100	7	22	

Ditch Number	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020
Number of aquatic species	2	2	5	2	1	2	1	2	0	1	3	2	0	1	0	1	1	6	1	2
Number of emergent species	9	2	9	2	4	1	2	2	1	1	1	2	2	2	2	2	2	2	5	3
Number of bank species	4	2	2	0	1	0	0	1	0	1	2	0	1	0	1	0	1	0	3	2
Total number of species	15	6	16	4	6	3	3	5	1	3	6	4	3	3	3	3	4	8	9	7

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/spp																				
Ceratophyllum demersum								1												
Ceratophyllum submersum																				
Elodea canadensis																				
Elodea nuttallii						1									1					
Enteromorpha sp†																				
Filamentous algae†						1		1												
Groenlandia densa																				
Hydrocharis morsus-ranae						1		1												
Lemna gibba															1					
Lemna miniscula																				
Lemna minor		1			1			1										1		1
Lemna trisulca		1			1			1	1											
Myriophyllum spicatum															1					
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus						1		1							1					
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza						1									1					
Utricularia vulgaris																				
Zannichellia palustris																				
Alisma plantago-aquatica																				
Apium nodiflorum															1					
Berula erecta		1	1					1										1	1	
Butomus umbellatus																				
Carex riparia							1				1			1						
Eleocharis palustris																				
Equisetum fluviatile		1	1				1				1									
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus								1					1							
Nasturtium officinale agg								1												
Oenanthe aquatica																				
Oenanthe fistulosa									1									1		
Oenanthe silaifolia		1																1		
Phalaris arundinacea															1					
Phragmites australis*	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3
Ranunculus flammula																				
Ranunculus sceleratus																				
Rumex hydrolapathum																				
Scirpus lacustris																		1		
Scirpus maritimus*						3		1							3			1		
Sparganium erectum																				
Typha angustifolia																				
Typha latifolia																				
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†																				
Atriplex hastata																				1
Aster tripolium																				
Carex divisa		1	1				1	1	1									1		
Carex otrubae												1			1					
Carex distans																				
Chenopodium chenopodioides																				
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum							1						1	1						
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus													1							
Juncus inflexus		1	1					1			1		1			1			1	
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus																				
Lysimachia nummularia																				
Mentha aquatica													1							
Myosotis cespitosa								1										1		
Myosotis scorpioides																				
Oenanthe lachenalii									1											
Polypogon monspeliensis																				
Pulicaria dysenterica										1		1	1	1			1			
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*					1															
Ditch choked	1	1	1	1	1		1		1	1	1	1	1	1		1	1	1	1	
Ditch dry (N=near dry)	1	1	1	1			1			1	1	1	1	1		1	1	1	1	
Width (nearest metre)	4	4		3	4	15		6	10	12	4	12		4	15	4	15	4	4	10
land use north / east	U	P	P	U	U	H	P	P	H	U	P	U	U	P	U	P	U	P	P	U
land use south / west	U	P	U	U	U	U	U	P	H	U	P	U	U	U	U	P	U	P	P	U
Conductivity (µScm x 100)					32	6		25	100						7					10

Ditch Number	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040
Number of aquatic species	0	2	0	0	2	4	0	5	1	0	0	0	0	0	5	0	0	1	0	1
Number of emergent species	1	4	3	1	1	2	3	5	2	1	3	1	2	2	4	1	1	6	2	1
Number of bank species	0	2	2	0	0·	0	2	3	2	1	1	2	5	2	1	1	1	2	1	1
Total number of species	1	8	5	1	3	6	5	13	5	2	4	3	7	4	10	2	2	9	3	3

† Excluded from totals
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060
Azolla filiculoides																				
Callitriche obtusangula																				
Callitriche stagnalis/spp																				
Ceratophyllum demersum								1	1	1			1					1		
Ceratophyllum submersum													1					1		
Elodea canadensis									1											
Elodea nuttallii										1			1					1		
Enteromorpha sp†																				
Filamentous algae†										1			1					1		
Groenlandia densa																				
Hydrocharis morsus-ranae		1											1					1	1	
Lemna gibba		1						1	1	1			1				1	1		
Lemna miniscula													1							
Lemna minor		1	1					1	1	1			1				1	1	1	
Lemna trisulca			1										1					1		
Myriophyllum spicatum																				
Myriophyllum verticillatum																				
Nymphaea alba																				
Nymphoides peltata																				
Potamogeton crispus																				
Potamogeton natans																				
Potamogeton pectinatus			1						1	1										
Potamogeton pusillus/berchtoldii																				
Ranunculus baudotii																				
Ranunculus trichophyllus																				
Ranunculus seedling																				
Spirodela polyrhiza			1				1	1	1	1										
Utricularia vulgaris																				
Zannichellia palustris									1											
Alisma plantago-aquatica		1									1							1		
Apium nodiflorum		1	1						1									1		
Berula erecta	1	1	1								1		1			1	1	1		
Butomus umbellatus																				
Carex riparia																				
Eleocharis palustris		1									1							1		
Equisetum fluviatile																				
Glyceria fluitans																				
Glyceria maxima																				
Hippuris vulgaris																				
Iris pseudacorus																				
Juncus articulatus																	1			
Nasturtium officinale agg			1															1		
Oenanthe aquatica																				
Oenanthe fistulosa																				
Oenanthe silaifolia																				
Phalaris arundinacea																				
Phragmites australis*	3	2	3		3	3	3	1	1	1	3	3	3	3	3	3	3	3	3	3
Ranunculus flammula																				
Ranunculus sceleratus										1	1		1					1		
Rumex hydrolapathum																				
Scirpus lacustris					1															
Scirpus maritimus*			1	3				1		1		1	1				1	1		
Sparganium erectum		1						1	1									1		
Typha angustifolia																				
Typha latifolia										1										
Veronica anagallis-aquatica																				
Veronica catenata																				
Veronica scutellata																				
Grass dom (Agro/Alop)†										1										
Atriplex hastata															1					
Aster tripolium																				
Carex divisa		1			1			1		1										
Carex otrubae													1							
Carex distans																				
Chenopodium chenopodioides																				
Chenopodium rubrum																				
Crassula helmsii																				
Epilobium hirsutum			1														1	1		
Galium palustre																				
Glaux maritima																				
Inula crithmoides																				
Juncus effusus																				
Juncus inflexus	1	1				1										1				
Juncus gerardii																				
Juncus maritima																				
Lycopus europaeus											1									
Lysimachia nummularia																				
Mentha aquatica																				
Myosotis cespitosa											1									
Myosotis scorpioides																				
Oenanthe lachenalii																				
Polypogon monspeliensis																				
Pulicaria dysenterica																		1		
Salicornia sp.																				
Samolus valerandi																				
Solanum dulcamara																				
Spartina anglica																				
Spergularia marina																				
Spergularia media																				
Sueda maritima																				
Triglochin maritima																				
Triglochin palustre																				
Scrub cover*																				
Ditch choked	1			1	1	1		1			1	1		1	1	1			1	1
Ditch dry (N=near dry)	1			1	1	1		N				1		1	1	N				1
Width (nearest metre)	4	1	15	3	4	3	15	8	8	8	4	6	6	4	4	4	4	6	4	4
land use north / east	P	P	H	P	P	P	H	P	P	P	P	H	H	P	H	P	H	U	H	H
land use south / west	P	P	U	P	P	P	U	P	P	P	P	H	H	P	H	P	P	H	P	P
Conductivity (µScm x 100)		22	17				17	21	30	21	25		11			19	18	14	23	

Ditch Number	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060
Number of aquatic species	0	3	4	0	0	0	1	4	7	6	0	0	8	0	0	0	2	7	2	0
Number of emergent species	2	6	5	1	2	1	1	3	3	4	5	2	4	1	1	2	4	9	1	1
Number of bank species	1	2	1	0	1	1	0	1	0	1	2	0	1	0	1	1	1	2	0	0
Total number of species	3	11	10	1	3	2	2	8	10	11	7	2	13	1	2	3	7	18	3	1

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

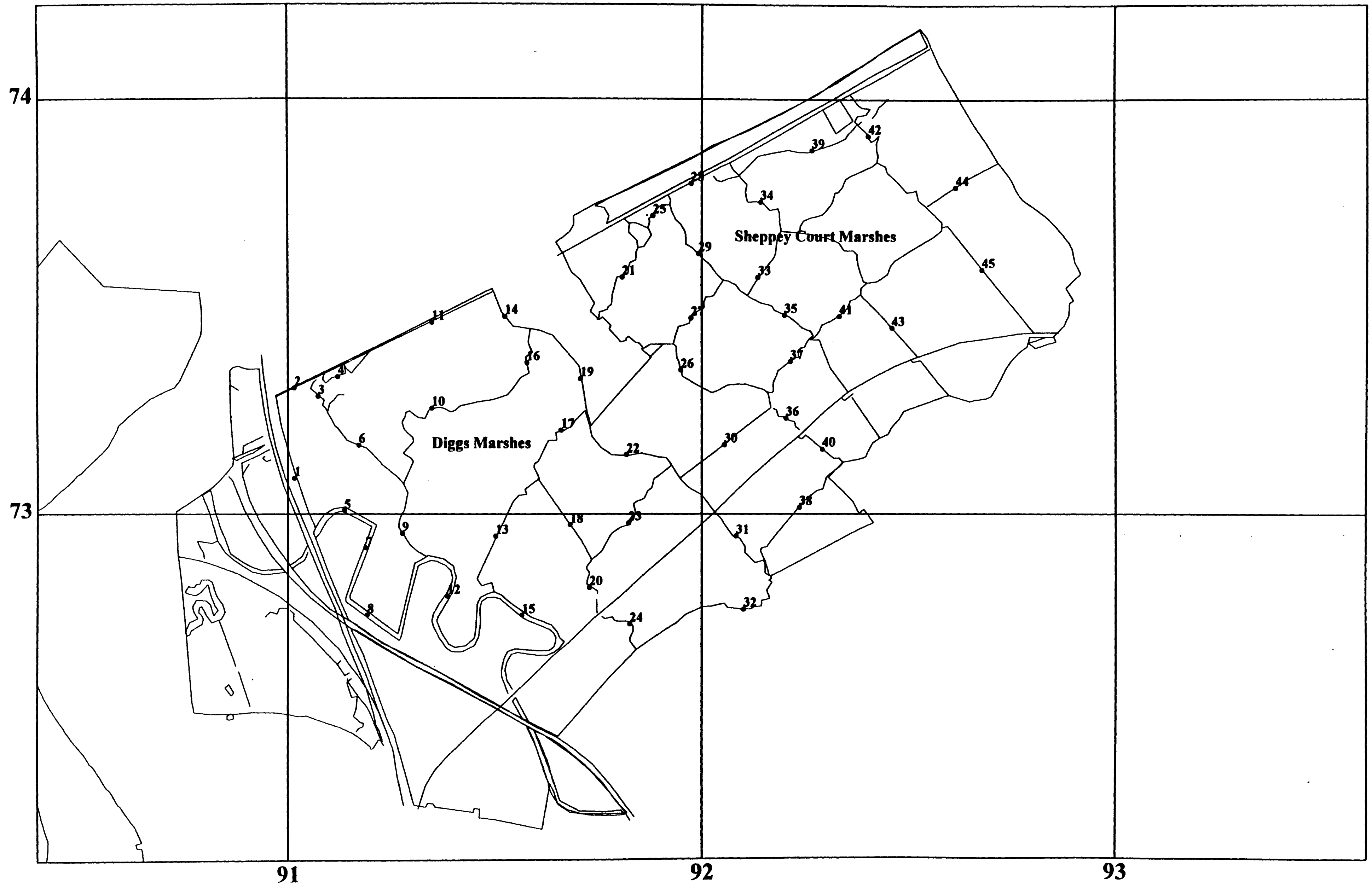
Medway Estuary & Marshes SSSI and The Swale SSSI
Ditch survey data (20m sample sections)
English Nature 1995

Ditch number	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	Total	%
Azolla filiculoides																					9	0.8
Callitriche obtusangula															1						128	11.9
Callitriche stagnalis/spp																					1	0.1
Ceratophyllum demersum							1														61	5.6
Ceratophyllum submersum						1															176	16.3
Elodea canadensis																					5	0.5
Elodea nuttallii																			1		25	2.3
Enteromorpha sp†																					124	11.5
Filamentous algae†						1		1		1				1			1		1	1	303	28.1
Groenlandia densa																					3	0.3
Hydrocharis morsus-ranae					1	1	1	1		1				1	1	1	1		1	1	97	9.0
Lemna gibba							1								1				1	1	40	3.7
Lemna miniscula							1														3	0.3
Lemna minor					1	1	1	1		1			1	1	1	1	1			1	335	31.0
Lemna trisulca					1	1		1		1				1		1	1				243	22.5
Myriophyllum spicatum																					133	12.3
Myriophyllum verticillatum																					3	0.3
Nymphaea alba																					1	0.1
Nymphoides peltata																					1	0.1
Potamogeton crispus																					11	1.0
Potamogeton natans																				1	7	0.6
Potamogeton pectinatus														1							316	29.3
Potamogeton pusillus/berchtoldii																					24	2.2
Ranunculus baudotii																					33	3.1
Ranunculus trichophyllus																					3	0.3
Ranunculus seedling																					43	4.0
Spirodela polyrhiza															1					1	17	1.6
Utricularia vulgaris																					20	1.9
Zannichellia palustris																					26	2.4
Alisma plantago-aquatica						1															60	5.6
Apium nodiflorum																					88	8.1
Berula erecta					1	1	1	1		1		1			1		1		1	1	221	20.5
Butomus umbellatus																					1	0.1
Carex riparia																					49	4.5
Eleocharis palustris							1			1				1	1	1	1		1		169	15.6
Equisetum fluviatile												1						1	1	1	32	3.0
Glyceria fluitans																					11	1.0
Glyceria maxima																					36	3.3
Hippuris vulgaris																					10	0.9
Iris pseudacorus																					1	0.1
Juncus articulatus							1			1							1	1		1	61	5.6
Nasturtium officinale agg						1															74	6.9
Oenanthe aquatica							1								1					1	3	0.3
Oenanthe fistulosa					1		1							1			1			1	50	4.6
Oenanthe silaifolia										1						1	1				6	0.6
Phalaris arundinacea																					5	0.5
Phragmites australis*	3	3	3	3		2		3	3	3			3	2	3	3	1	3	1	1	397	36.8
Ranunculus flammula																					1	0.1
Ranunculus sceleratus																				1	48	4.4
Rumex hydrolapathum								1		1				1		1	1				27	2.5
Scirpus lacustris					1		1														95	8.8
Scirpus maritimus*					1	1	1													1	712	65.9
Sparganium erectum					1	1	1							1		1			1	1	148	13.7
Typha angustifolia												1								1	66	6.1
Typha latifolia						1	1											1	1		35	3.2
Veronica anagallis-aquatica																					1	0.1
Veronica catenata																					23	2.1
Veronica scutellata																					3	0.3
Grass dom (Agro/Alop)†							1												1		58	5.4
Atriplex hastata																					175	16.2
Aster tripolium																					11	1.0
Carex divisa				1	1		1							1	1		1	1			150	13.9
Carex otrubae					1							1						1			119	11.0
Carex distans																					13	1.2
Chenopodium chenopodioides																					184	17.0
Chenopodium rubrum																1					51	4.7
Crassula helmsii																					2	0.2
Epilobium hirsutum							1			1									1		58	5.4
Galium palustre																		1			39	3.6
Glaux maritima																					42	3.9
Inula crithmoides																					1	0.1
Juncus effusus													1						1		67	6.2
Juncus inflexus					1							1								1	310	28.7
Juncus gerardii		1																			271	25.1
Juncus maritima																					23	2.1
Lycopus europaeus												1							1		35	3.2
Lysimachia nummularia																					1	0.1
Mentha aquatica																1		1	1	1	40	3.7
Myosotis cespitosa															1						47	4.4
Myosotis scorpioides																					11	1.0
Oenanthe lachenalii																					2	0.2
Polypogon monspeliensis																					16	1.5
Pulicaria dysenterica												1	1						1		45	4.2
Salicornia sp.																					17	1.6
Samolus valerandi																					7	0.6
Solanum dulcamara												1			1						48	4.4
Spartina anglica																					1	0.1
Spergularia marina																					43	4.0
Spergularia media																					2	0.2
Sueda maritima																					1	0.1
Triglochin maritima																					1	0.1
Triglochin palustre																					8	0.7
Scrub cover*			1									1									101	9.4
Ditch choked	1	1		1		1		1	1				1					1			226	20.9
Ditch dry (N=near dry)	1	1		1					1			1						1			354	32.8
Width (nearest metre)	4	5	4	5	3	5	5	4	4	7	4	4	4	5	4	5	7	2	4	7		
land use north / east	P	H	P	H	P	H	P	P	P	H	P	P	P	P	P	H	H	H	H	H		
land use south / west	P	H	P	H	P	H	P	P	P	P	P	P	P	P	P	H	P	P	H	P		
Conductivity (µScm x 100)					14	2	17	27		9	26		24	22	5	9	7		7	6		

Ditch Number	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	Total	Average
Number of aquatic species	0	0	0	0	3	4	5	3	0	3	0	0	1	4	5	3	3	0	3	5	27	1.6
Number of emergent species	1	1	1	1	5	7	9	3	1	6	0	3	1	5	4	5	7	4	6	10	29	2.3
Number of bank species	0	1	0	1	3	0	2	0	0	1	0	5	2	1	3	2	1	4	5	2	33	1.7
Total number of species	1	2	1	2	11	11	16	6	1	10	0	8	4	10	12	10	11	8	14	17	89	5.6

† **Excluded from totals**
D = dominant A = abundant
* Abundance recorded as 1 = 1-9% 2 = 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = silage A = arable F = fence U = unmanaged

Diggs and Sheppey Court Marshes SNCI - Ditch Numbering (East to West)



Diggs and Sheppey Court Marshes SNCI
English Nature 1995 ditch data (20m sample sections)

Ditch number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Azolla filiculoides										1													
Callitriche obtusangula	1	1																					
Ceratophyllum demersum	1																						
Ceratophyllum submersum	1	1			1		1	1				1			1					1			1
Elodea nuttallii	1	1																					
Enteromorpha sp†		1																					1
Filamentous algae†	1	1	1	1	1		1	1			1	1			1			1		1			
Lemna miniscula																1							
Lemna minor	1	1					1		1		1	1		1	1	1			1	1			1
Lemna trisulca	1	1								1				1	1					1			1
Myriophyllum spicatum					1		1	1				1								1			
Nymphaea alba																			1				
Potamogeton pectinatus	1	1			1		1	1				1			1					1			1
Ranunculus baudotii																							
Apium nodiflorum												1			1								
Eleocharis palustris															1		1						1
Nasturtium officinale agg															1								1
Phragmites australis*											3												
Scirpus maritimus*	3	3	3	3	3	3	2	2	3	3	1	2	3	3	2	3	2	3	3	3	3	3	3
Typha latifolia														1					1	1			1
Atriplex hastata					1		1														1		
Carex divisa						1	1		1	1		1	1		1			1		1	1	1	1
Carex otrubae												1											
Chenopodium chenopodioides			1	1														1					
Epilobium hirsutum																			1				
Glaux maritima																							
Juncus inflexus																							
Juncus gerardii							1	1	1														
Juncus maritima																	1						
Pulicaria dysenterica		1																					
Scrub cover*																							
Ditch choked											1										1		
Ditch dry			1	1		1			N				N				N				1		
Width (nearest metre)	2	2	3	2	8	2	5	4	1	3	3	6	3	8	8	3	3	1	6	2	2	6	2
land use north/east	P	U	P	P	U	P	P	P	P	P	U	P	P	U	P	P	P	P	U	P	P	P	P
land use south/west	U	P	P	P	P	P	U	U	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Conductivity (μScmx100)	15	11		70	24		39	24	68	56	11	20	77	11	10	11	77	77	7	48		6	13

Ditch number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Number of aquatic species	7	6	0	0	3	0	4	3	1	2	1	4	0	2	4	2	0	0	2	5	0	0	4
Number of emergent species	1	1	1	1	1	1	1	1	1	1	2	2	1	2	4	1	2	1	2	2	1	1	4
Number of bank species	0	1	1	1	1	1	3	1	2	1	0	2	1	0	1	0	1	2	1	1	2	1	1
Total number of species	8	8	2	2	5	2	8	5	4	4	3	8	2	4	9	3	3	3	5	8	3	2	9

Diggs and Sheppey Court Marshes SNCI
English Nature 1995 ditch data (20m sample sections)

Ditch number	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	total	%
Azolla filiculoides						1																2	4.4
Callitriche obtusangula																						2	4.4
Ceratophyllum demersum																						1	2.2
Ceratophyllum submersum																					1	10	22.2
Elodea nuttallii					1								1				1					5	11.1
Enteromorpha sp†		1	1																			4	8.9
Filamentous algae†		A											1				1					15	33.3
Lemna miniscula						1																2	4.4
Lemna minor			1		1	1					1	1	1				1					19	42.2
Lemna trisulca			1		1						1											10	22.2
Myriophyllum spicatum					1								1				1			1		9	20.0
Nymphaea alba													1									2	4.4
Potamogeton pectinatus		1									1											11	24.4
Ranunculus baudotii													1									1	2.2
Apium nodiflorum																						2	4.4
Eleocharis palustris													1									4	8.9
Nasturtium officinale agg													1									3	6.7
Phragmites australis*																			3		3	3	6.7
Scirpus maritimus*	3	2	3	3	3	1		3	3	2	3	3	1	1	3		2	3		1	1	42	93.3
Typha latifolia								1														5	11.1
Atriplex hastata	1																					4	8.9
Carex divisa	1	1	1		1	1		1				1										20	44.4
Carex otrubae																						1	2.2
Chenopodium chenopodioides																						3	6.7
Epilobium hirsutum								1														2	4.4
Glaux maritima			1								1											2	4.4
Juncus inflexus							1						1									2	4.4
Juncus gerardii										1	1		1									6	13.3
Juncus maritima																						1	2.2
Pulicaria dysenterica																						1	2.2
Scrub cover*								1														1	2.2
Ditch choked	1		1						1						1				1		1	8	17.8
Ditch dry	1			1				1	1	1					1			1	1			16	35.6
Width (nearest metre)	2	3	2	1	3	6	8	2	1	3	4	3	4	8	2	2	5	2	2	5	3		
land use north/east	P	P	U	F	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P		
land use south/west	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P		
Conductivity (μScmx100)		71	19		18	6					10	9	9	6		36	9			40	32		

Ditch number	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	average	total
Number of aquatic species	0	1	2	0	4	3	0	0	0	0	3	1	5	0	0	0	3	0	0	1	1	1.6	12
Number of emergent species	1	1	1	1	1	1	0	2	1	1	1	1	3	1	1	0	1	1	1	1	2	1.3	6
Number of bank species	2	1	2	0	1	1	1	2	0	1	2	1	2	0	0	0	0	0	0	0	0	0.9	10
Total number of species	3	3	5	1	6	5	1	4	1	2	6	3	10	1	1	0	4	1	1	2	3	3.9	28

† Excluded from totals
D = dominant A = abundant
*Abundance recorded as 1 = 1-9% 2= 10-59% 3 = 60-100%
Land use abbreviations P = pasture H = hay S = Silage A = arable F = fence U = unmanaged

Grid references for 1993 survey data

North Kent Marshes

Ditch number	Grid reference
1	TR0357068000
2	TR0365068000
3	TR0372068000
4	TR0381668000
5	TR0387568000
6	TR0362067750
7	TR0375067560
8	TR0378067500
9	TR0350067800
10	TR0350067874
11	TR0339267750
12	TR0350067310
13	TR0386067250
14	TR0336867250
15	TR0331067250
16	TR0312267228
17	TR0350067090
18	TR0375067090
19	TR0356067000
20	TR0367067000
21	TR0325066920
22	TR0334066750
23	TR0325066710
24	TR0336066500
25	TR0300066505
26	TQ9400068270
27	TQ9400068040
28	TQ9400067830
29	TQ9399067750
30	TQ9424867786
31	TQ9425267873
32	TQ9435068000
33	TQ9450068307
34	TQ9450067940
35	TQ9449767783
36	TQ9424767560
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38	TQ9457967500
39	TQ9470067500
40	TQ9475067790
41	TQ9481667759
42	TQ9475068010
43	TQ9502068250
44	TQ9475068366
45	TQ9429868500
46	TQ9416068750
47	TQ9450068710
48	TQ9456068750
49	TQ9466068750
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51	TQ9500067700
52	TQ9500067920
53	TQ9475067520
54	TQ9496267500
55	TQ9395068750
56	TQ9400068780
57	TQ9423069000
58	TQ9425069020
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63	TQ9500069000
64	TQ9500068858
65	TQ9525068769
66	TQ9325067350
67	TQ9325067450
68	TQ9345067500
69	TQ9350067470
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71	TQ9359067250
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73	TQ9525067396
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78	TQ9537268000
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195	TQ8725078100
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197	TQ8750078023
198	TQ8775078050
199	TQ8708578000
200	TQ8744078000

Grid references for 1993 survey data

North Kent Marshes

Ditch number	Grid reference
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212	TQ8790077750
213	TQ8808077750
214	TQ8750877732
215	TQ8750077660
216	TQ8750077610
217	TQ8775077590
218	TQ8775077550
219	TQ8698077500
220	TQ8724077500
221	TQ8750077520
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223	TQ8798077500
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395	TQ7456777000
396	TQ7453077500
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398	TQ7526077500
399	TQ7450076717
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	TQ8744078000

Grid references for 1993 survey data

North Kent Marshes

Ditch number	Grid reference
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409	TQ7504077000
410	TQ7500077120
411	TQ7500077180
412	TQ7500077320
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414	TQ7500077900
415	TQ7500077570
416	TQ7479077500
417	TQ7492078000
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419	TQ7400076950
420	TQ7400077636
421	TQ7400077480
422	TQ7392077500
423	TQ7450077830
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429	TQ7400077810
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439	TQ7557079000
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441	TQ7500078598
442	TQ7477078500
443	TQ7500078816
444	TQ7483079000
445	TQ7450079100
446	TQ7450078973
447	TQ7450078820
448	TQ7450078630
449	TQ7435078500
450	TQ7400078500

Ditch number	Grid reference
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452	TQ7515578500
453	TQ7550078488
454	TQ7559078500
455	TQ7550078260
456	TQ7500079120

Grid references for 1995 survey data

South Thames Estuary & Marshes SSSI

Ditch number	Grid reference
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2	TQ6774073443
3	TQ6779173700
4	TQ6779473569
5	TQ6787873817
6	TQ6791973517
7	TQ6791973584
8	TQ6792373283
9	TQ6814173328
10	TQ6818673383
11	TQ6819173593
12	TQ6819873779
13	TQ6822573689
14	TQ6832574181
15	TQ6834173381
16	TQ6836973908
17	TQ6837074214
18	TQ6840573453
19	TQ6841073855
20	TQ6846074094
21	TQ6852273326
22	TQ6852974186
23	TQ6855074013
24	TQ6858373701
25	TQ6859573494
26	TQ6859574371
27	TQ6859673421
28	TQ6863073604
29	TQ6864174106
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31	TQ6865073823
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42	TQ6895373855
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South Thames Estuary & Marshes SSSI

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Grid references for 1995 survey data

South Thames Estuary & Marshes SSSI

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Grid references for 1995 survey data

South Thames Estuary & Marshes SSSI

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South Thames Estuary & Marshes SSSI

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Grid references for 1995 survey data

Medway Estuary & Marshes SSSI and The Swale SSSI

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Grid references for 1995 survey data

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Grid references for 1995 survey data

Medway Estuary & Marshes SSSI and The Swale SSSI

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Grid references for 1995 survey data

Medway Estuary & Marshes SSSI and The Swale SSSI

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863	TR0261963307
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865	TR0264462793
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952	TR0576864046
953	TR0579064376
954	TR0580763470
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956	TR0585063715
957	TR0585863894
958	TR0589164510
959	TR0590662926
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993	TR0641864502
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996	TR0648364050
997	TR0654063648
998	TR0654864237
999	TR0655864732
1000	TR0656864400

Grid references for 1995 survey data

Medway Estuary & Marshes SSSI and The Swale SSSI

Ditch number	Grid reference
1001	TR0656963477
1002	TR0658463760
1003	TR0662463882
1004	TR0664264611
1005	TR0665464103
1006	TR0670264331
1007	TR0672564739
1008	TR0673164485
1009	TR0675164019
1010	TR0680264392
1011	TR0685363757
1012	TR0686564595
1013	TR0688564802
1014	TR0688964231
1015	TR0695863458
1016	TR0696964179
1017	TR0702864723
1018	TR0704664480
1019	TR0707563451
1020	TR0710663669
1021	TR0718064325
1022	TR0718163605
1023	TR0721563485
1024	TR0721564147
1025	TR0721564452
1026	TR0724064688
1027	TR0726763414
1028	TR0727163807
1029	TR0729564831
1030	TR0733864121
1031	TR0736763494
1032	TR0740564339
1033	TR0741063333
1034	TR0744363453
1035	TR0746264834
1036	TR0748063652
1037	TR0756764274
1038	TR0759363915
1039	TR0760063537
1040	TR0760064611
1041	TR0763563680
1042	TR0774263695
1043	TR0774764819
1044	TR0775163585
1045	TR0775863977
1046	TR0779963516
1047	TR0781764452
1048	TR0786863756
1049	TR0788063506
1050	TR0794464086

Ditch number	Grid reference
1051	TR0796263559
1052	TR0796664907
1053	TR0799464626
1054	TR0802163842
1055	TR0803364832
1056	TR0807963677
1057	TR0808764126
1058	TR0810964751
1059	TR0811363946
1060	TR0820564055
1061	TR0831164142
1062	TR0834663950
1063	TR0836264560
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1073	TR0885563836
1074	TR0887364051
1075	TR0888764370
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1077	TR0896764130
1078	TR0898464370
1079	TR0898464456
1080	TR0898764306

A SURVEY OF DITCH FLORA IN THE NORTH KENT MARSHES SSSIs
1995

APPENDIX 2i

DISTRIBUTION MAPS FOR:-
SOUTH THAMES ESTUARY & MARSHES SSSI

SURVEYORS:-

Belinda Wiggs
Phil Williams
Brian Banks
Rob Cameron
Stephen Davis
Steve Clarke
Teresa Bennett
Richard Collingridge

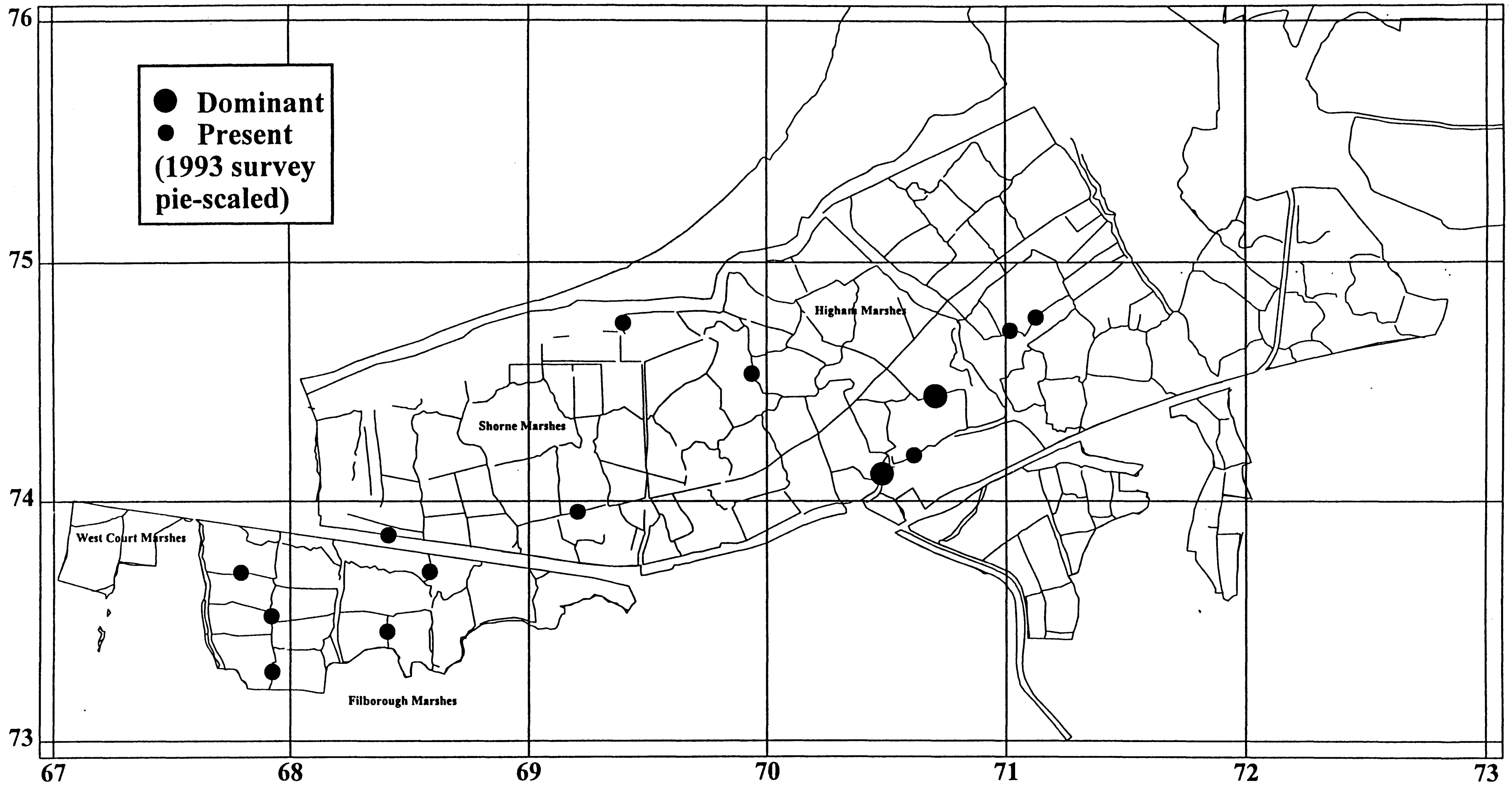
REPORT PRODUCED BY:-

Phil Williams
January 1996

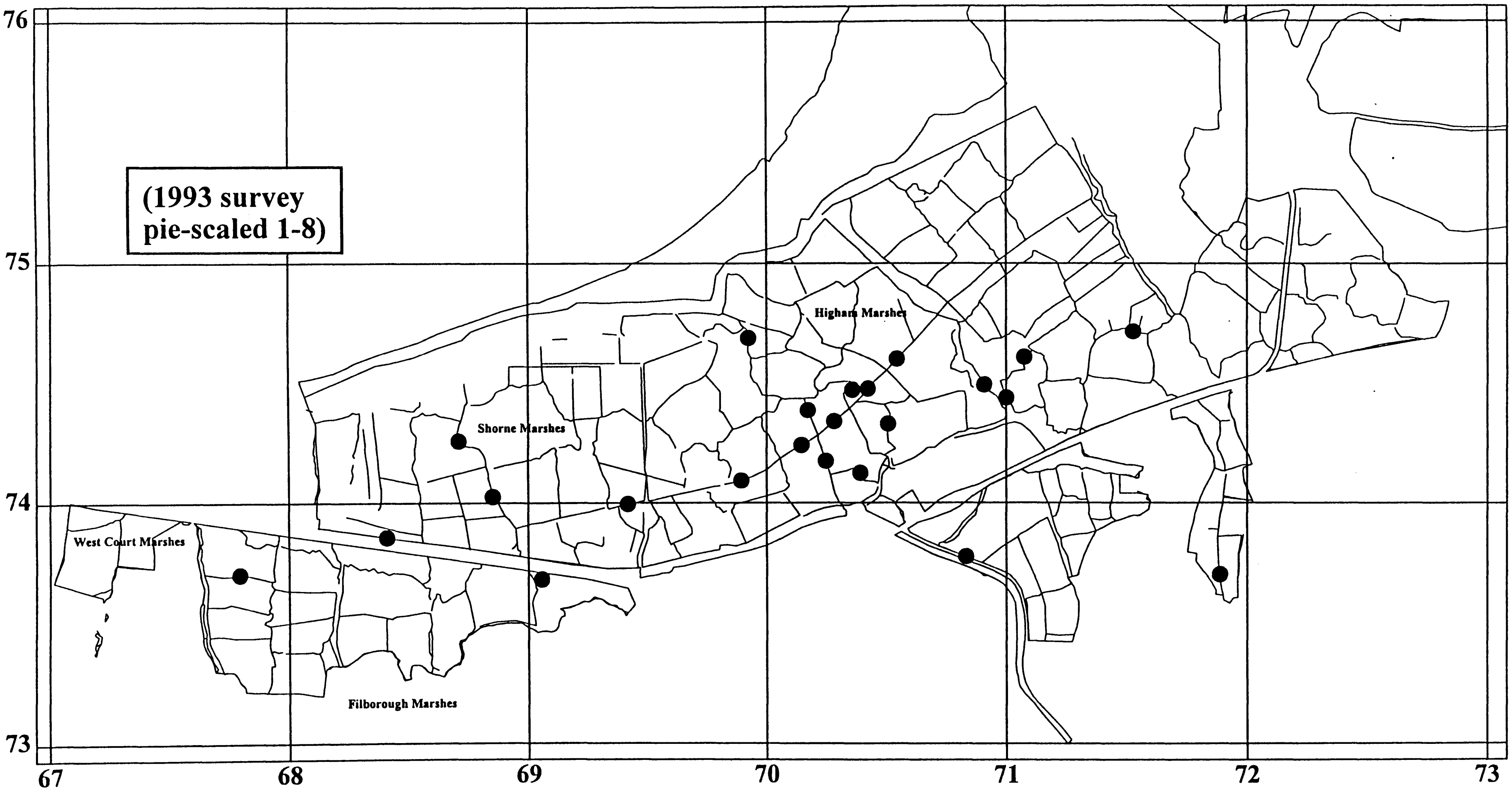
For each map area species are arranged alphabetically in the groups aquatic, emergent and bank species, followed by the physical data and species totals.

Survey Carried out by English Nature, co-funded by the National Rivers Authority

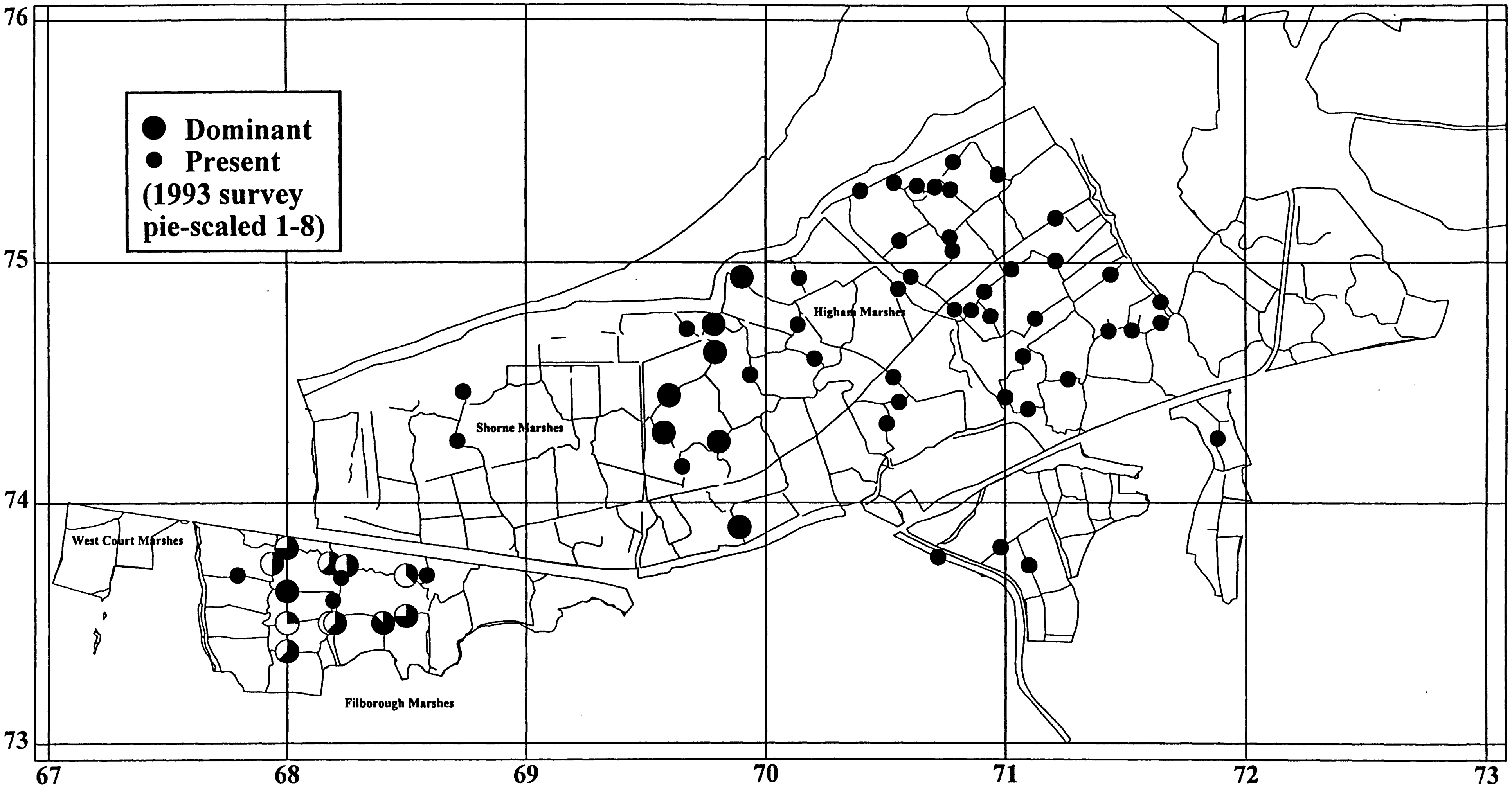
Azolla filiculoides



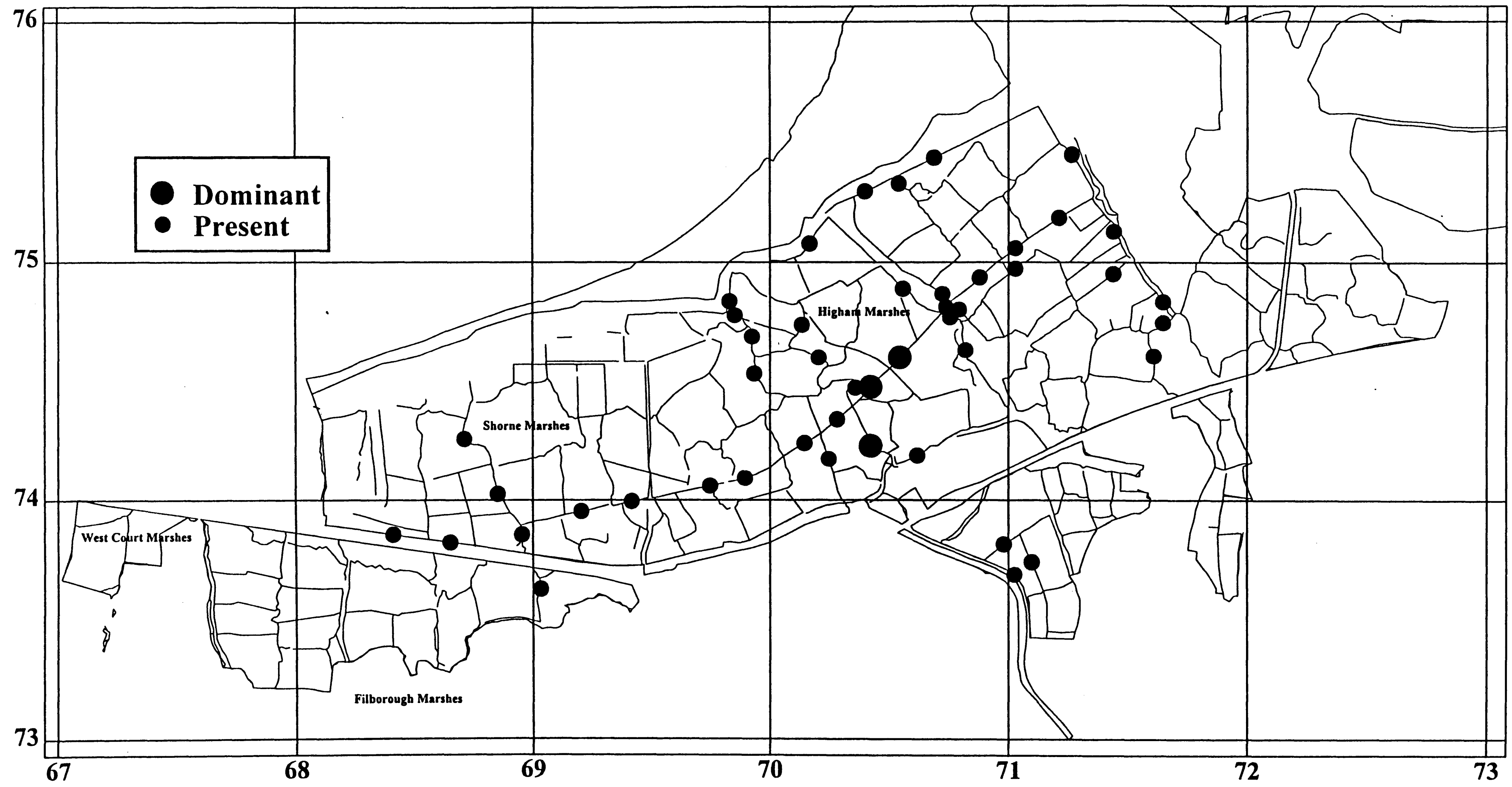
Ceratophyllum demersum



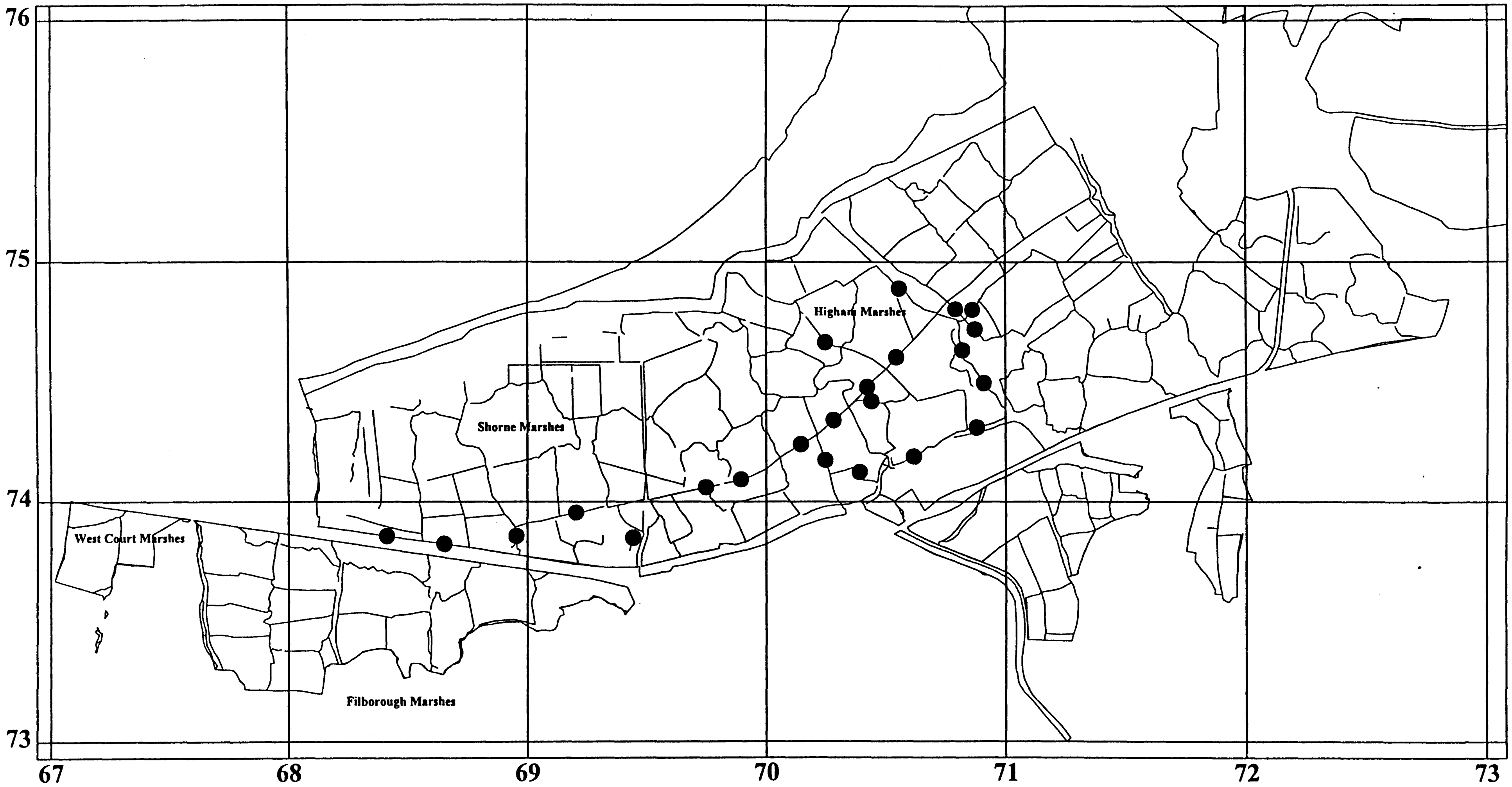
Ceratophyllum submersum



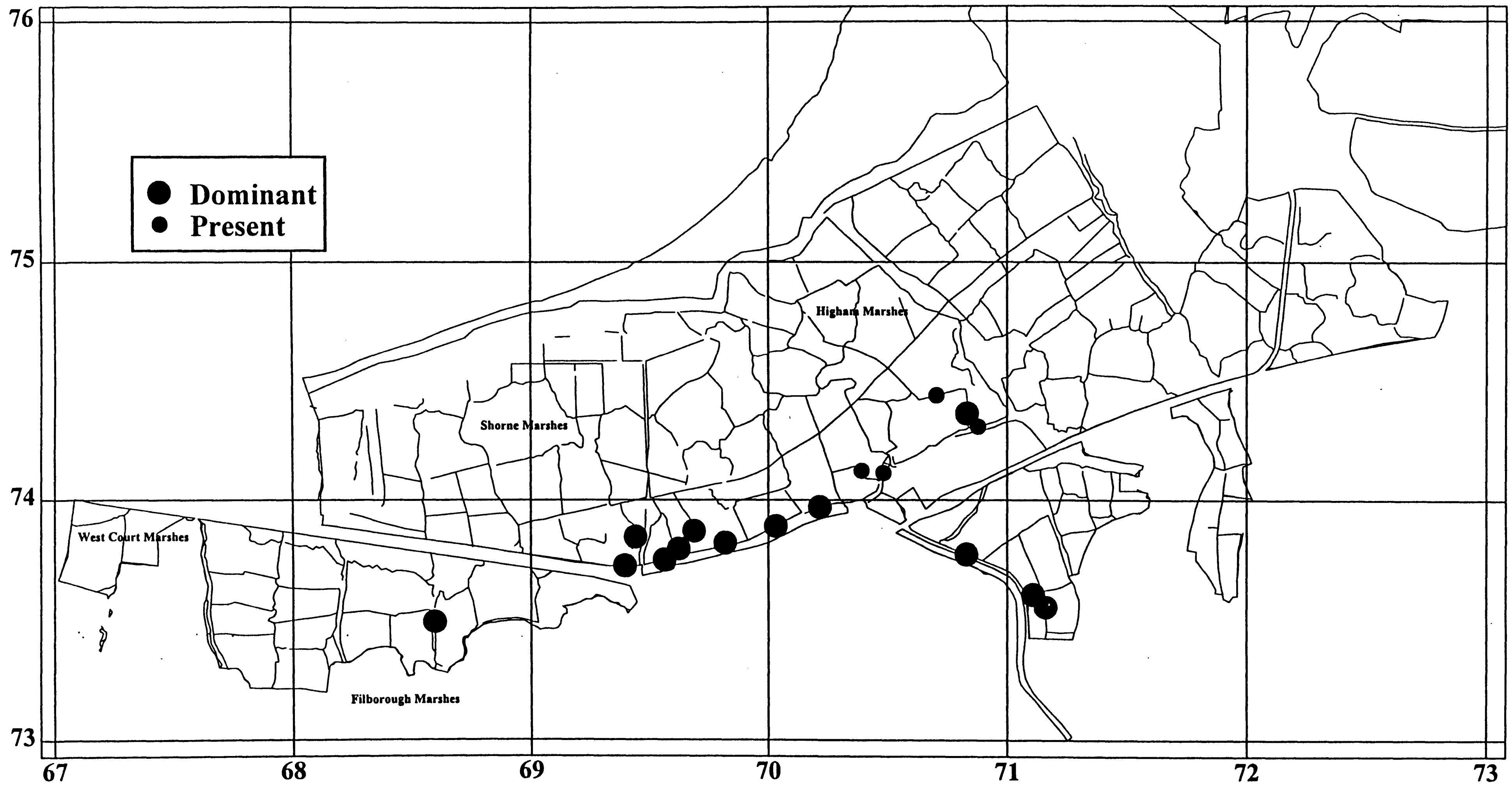
Elodea nuttallii



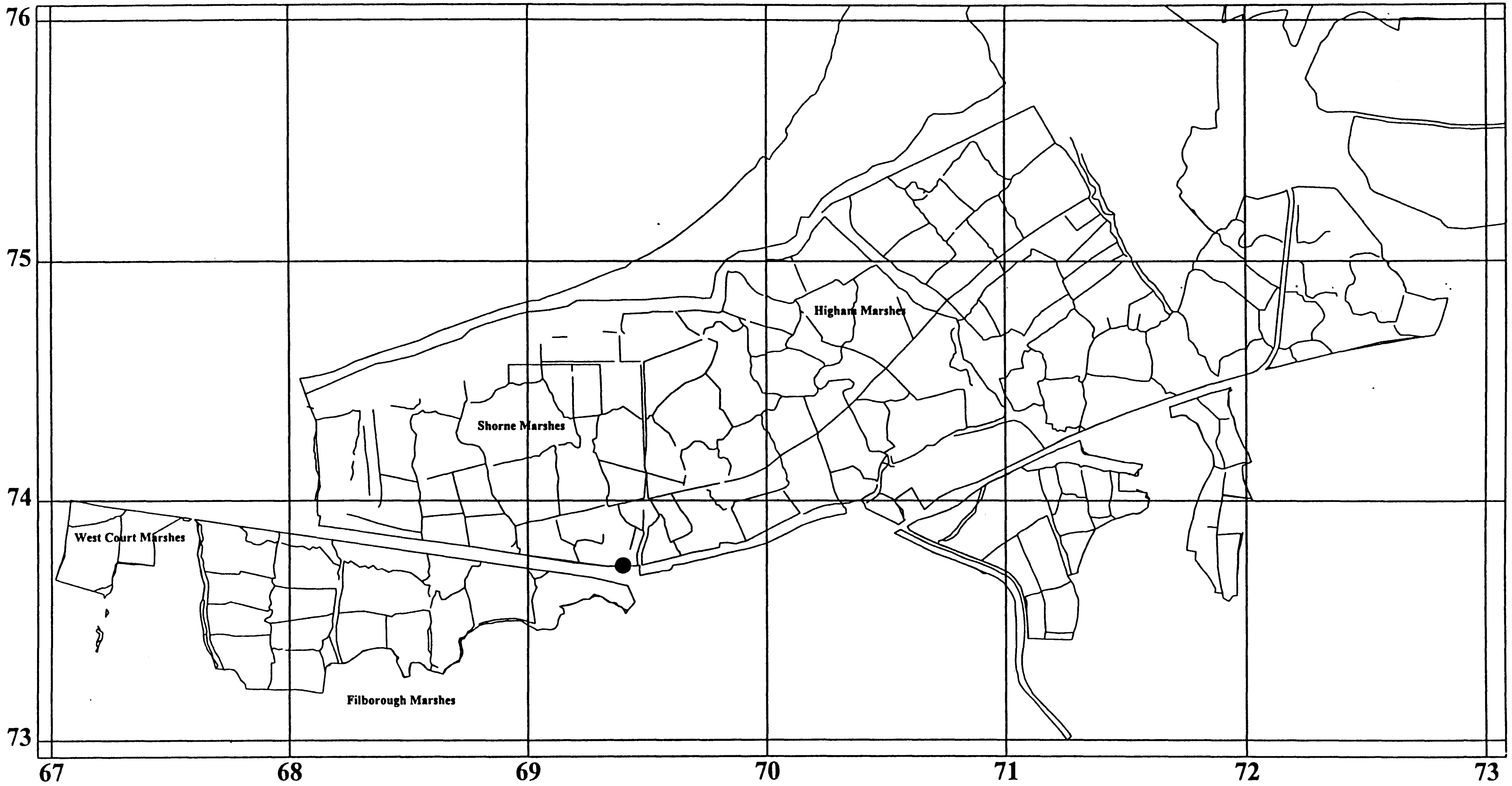
Hydrocharis morsus-ranae



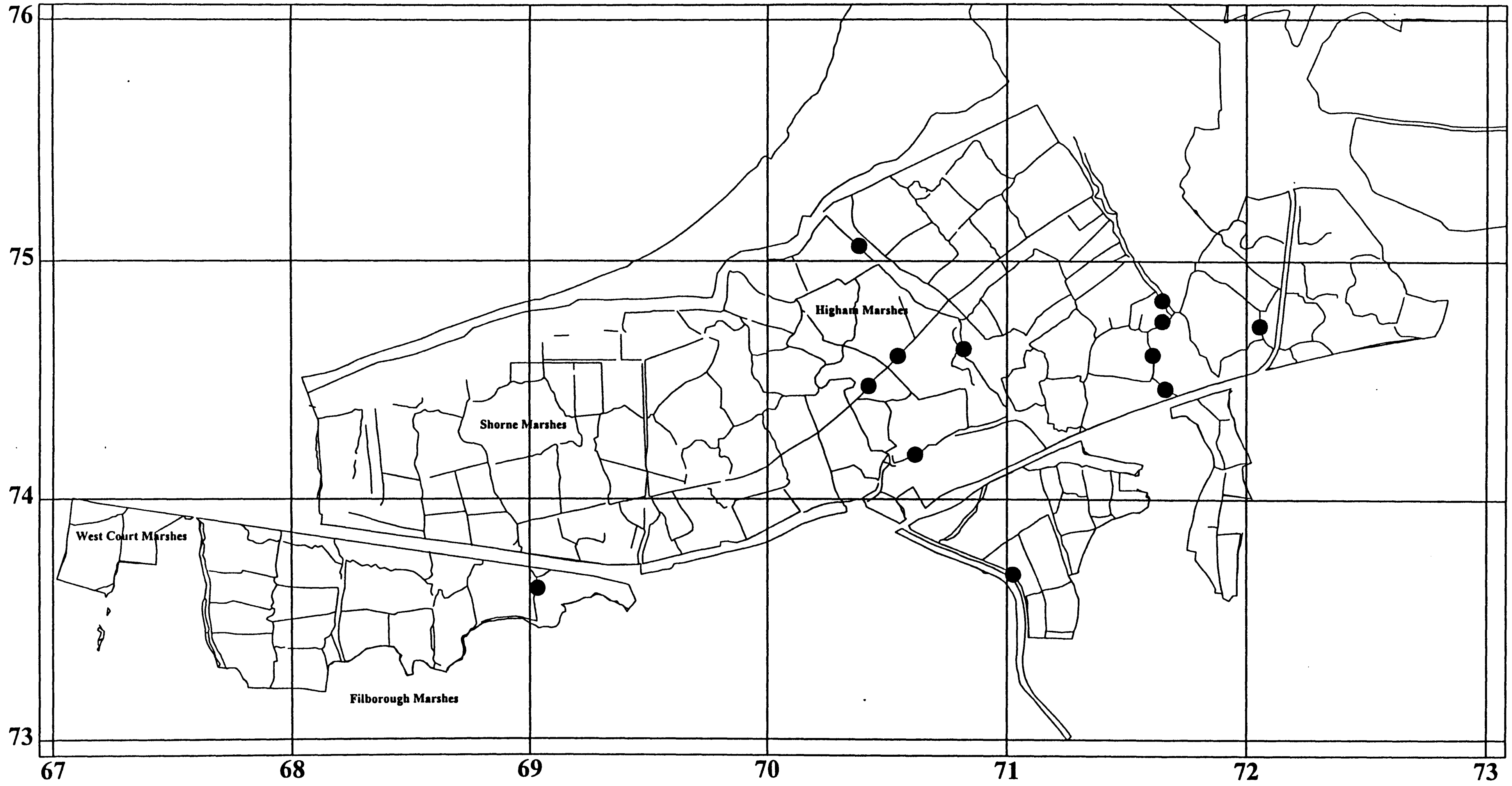
Lemna miniscula



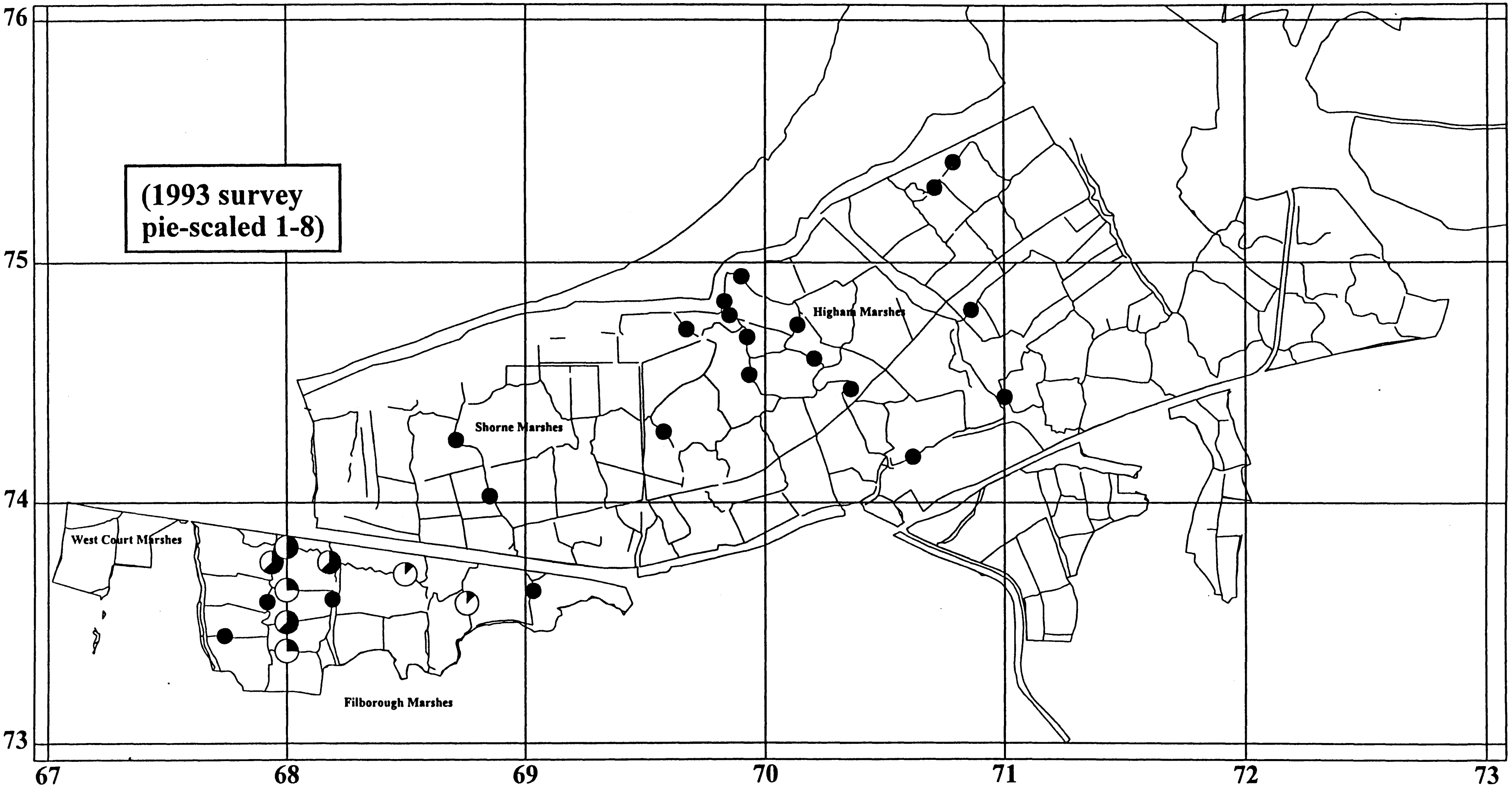
Myriophyllum aquaticum



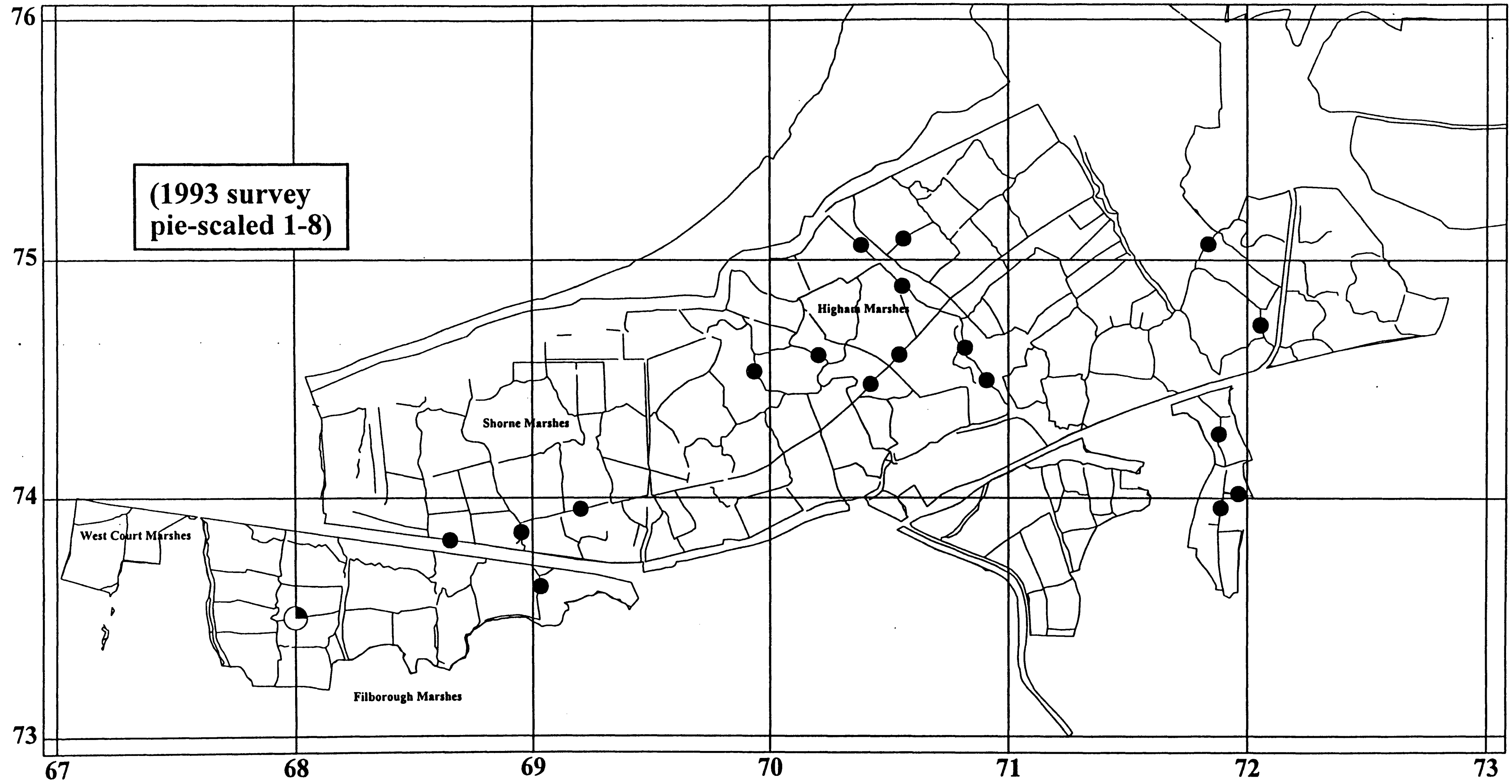
Potamogeton crispus



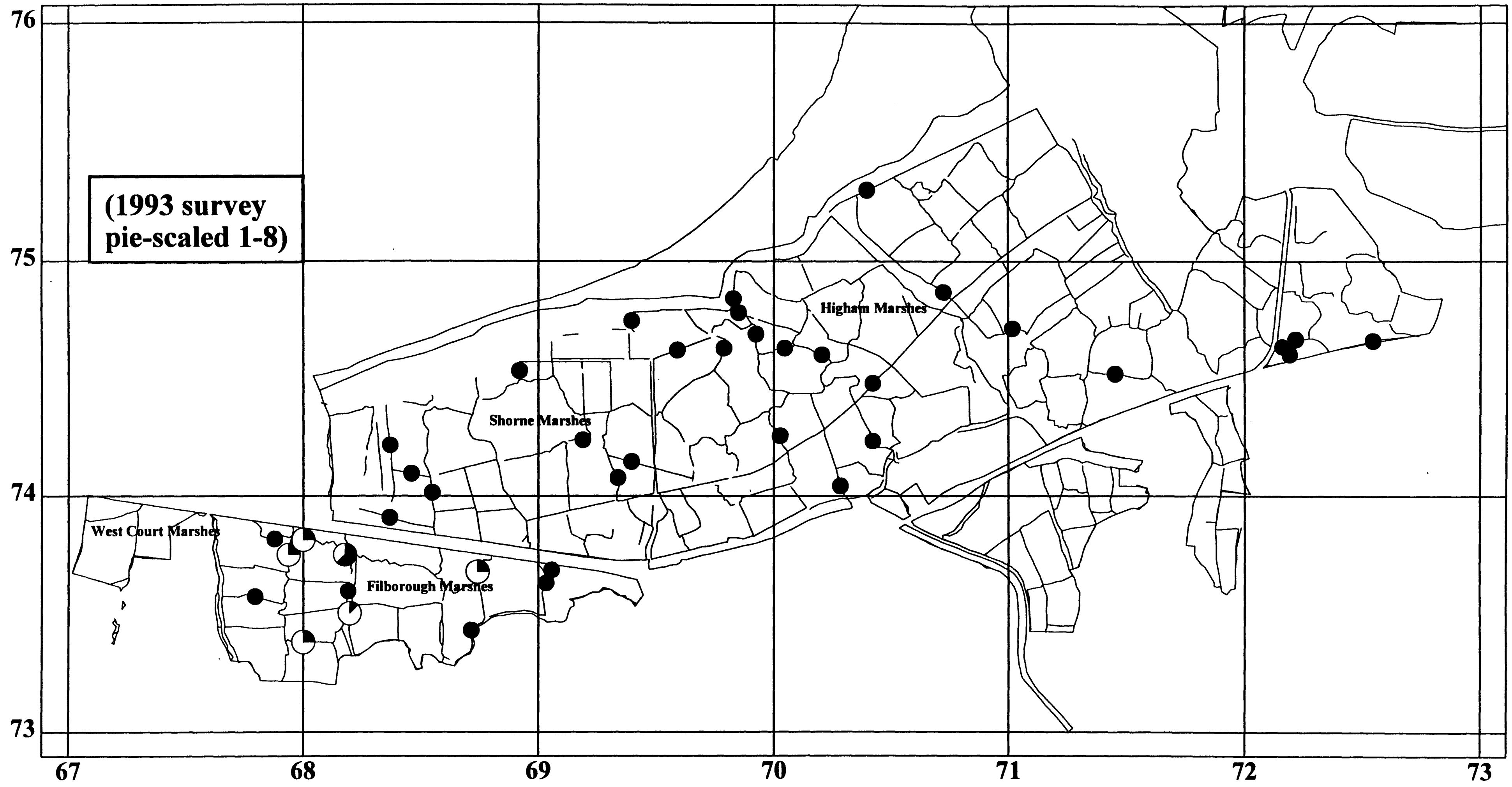
Potamogeton pectinatus



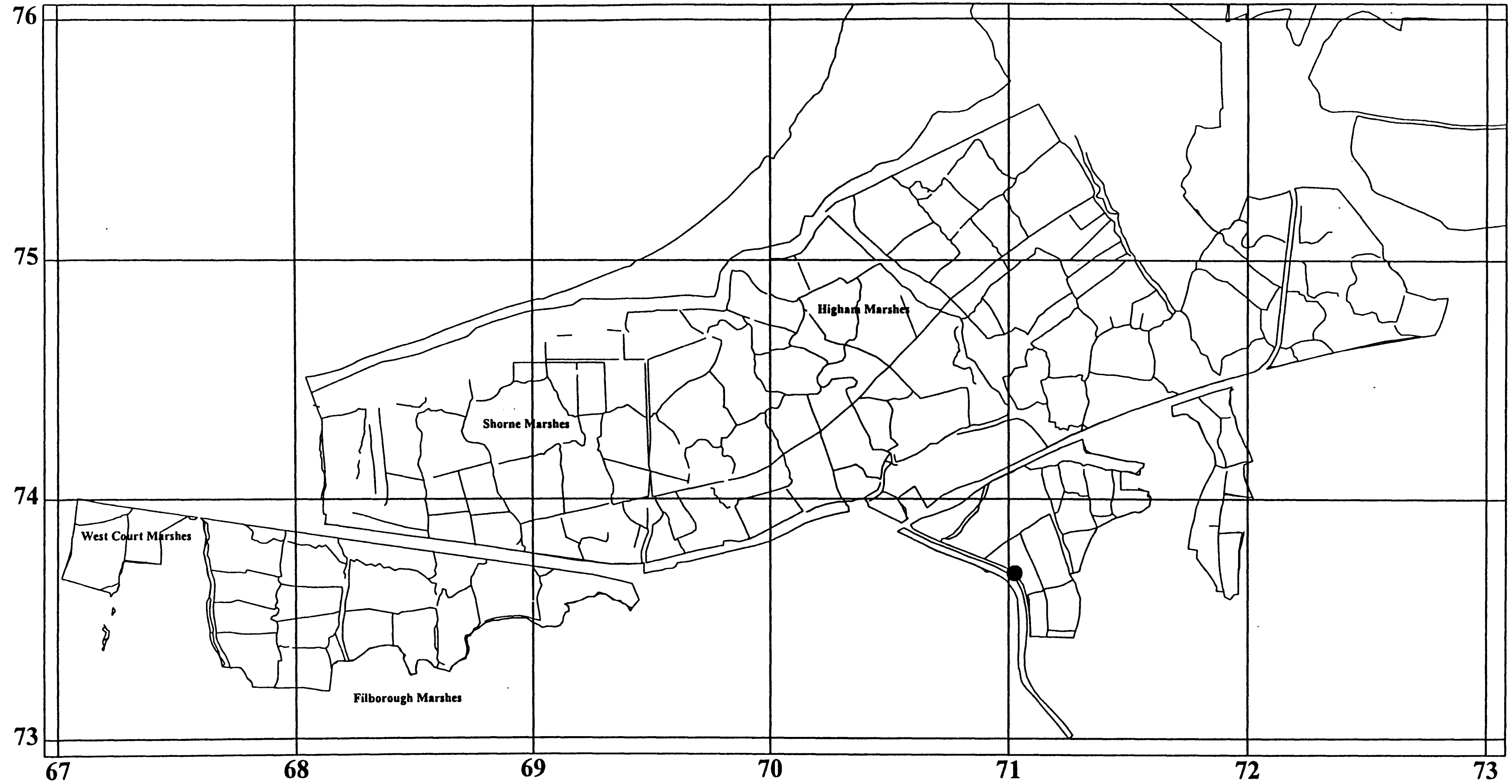
Potamogeton pusillus/berchtoldii



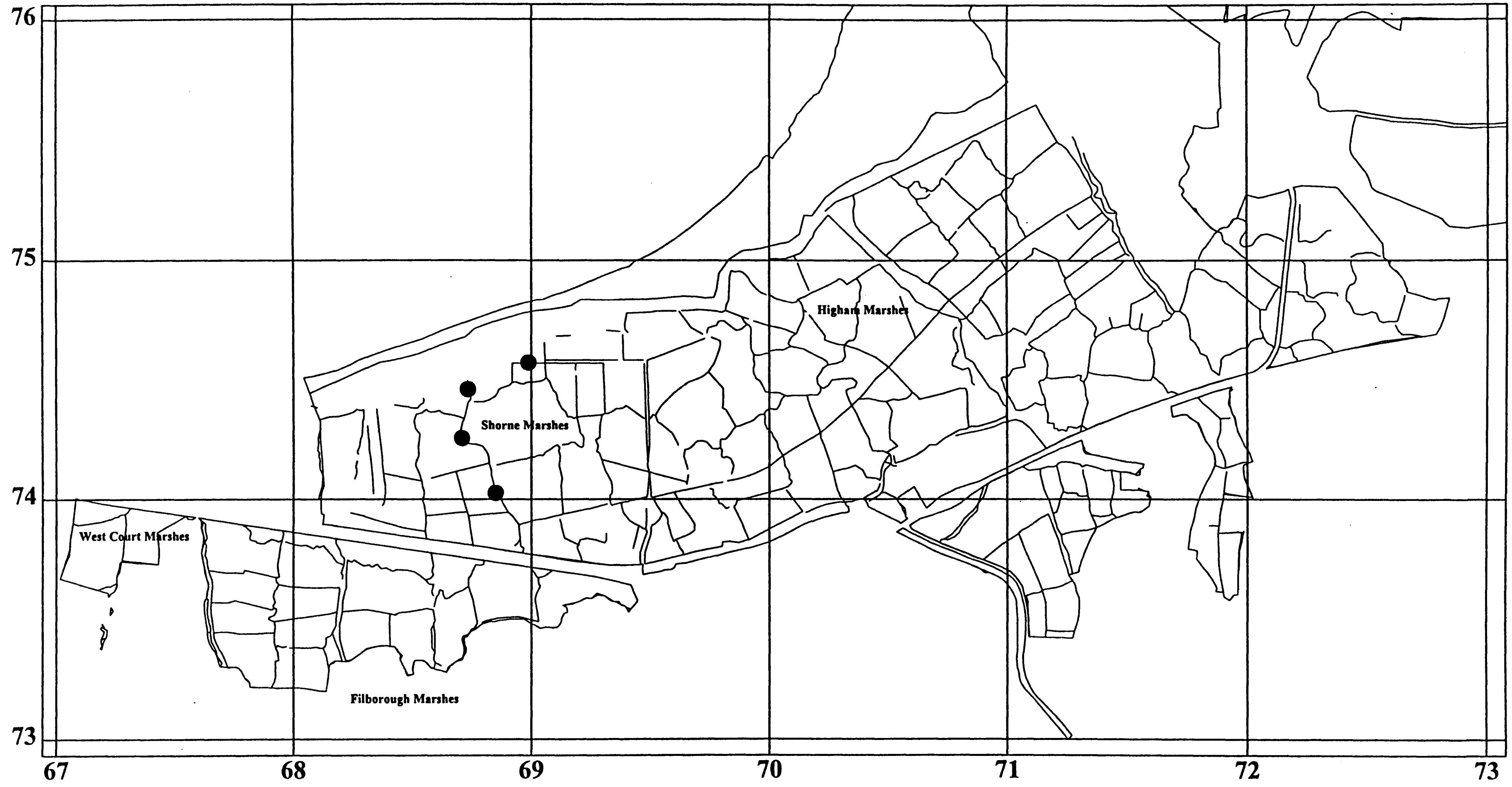
Ranunculus baudotii



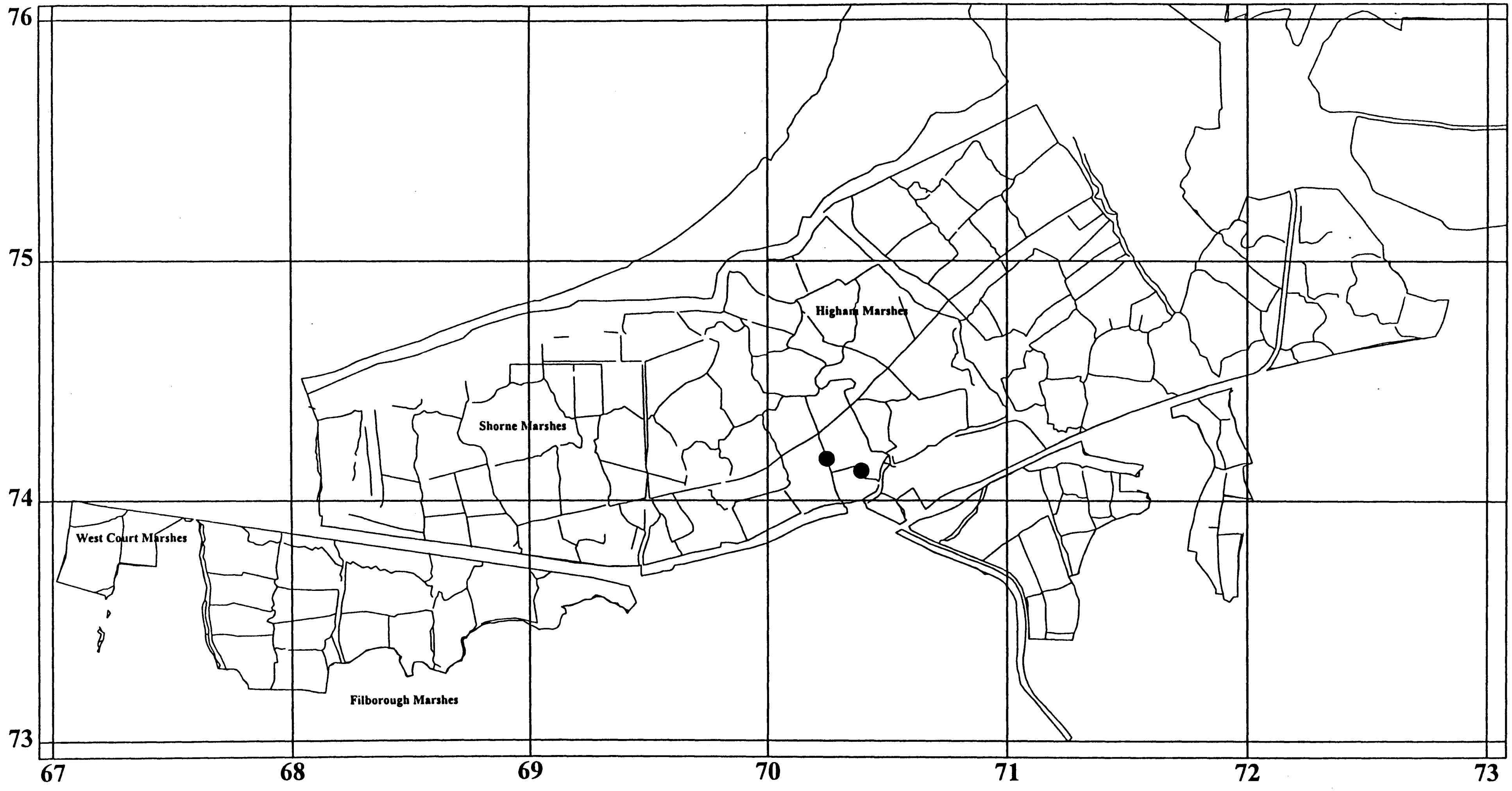
Ranunculus circinatus



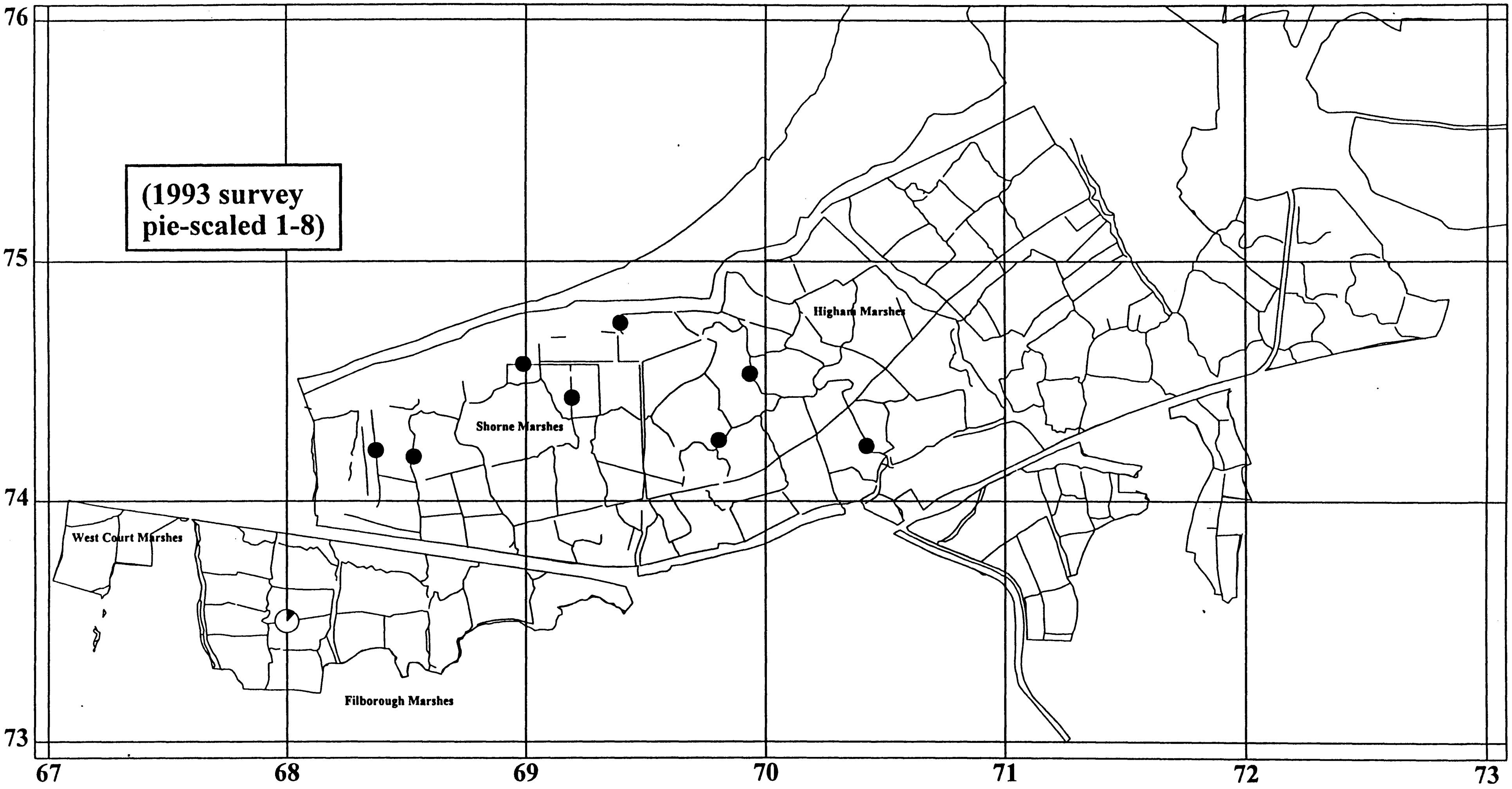
Ranunculus trichophyllus



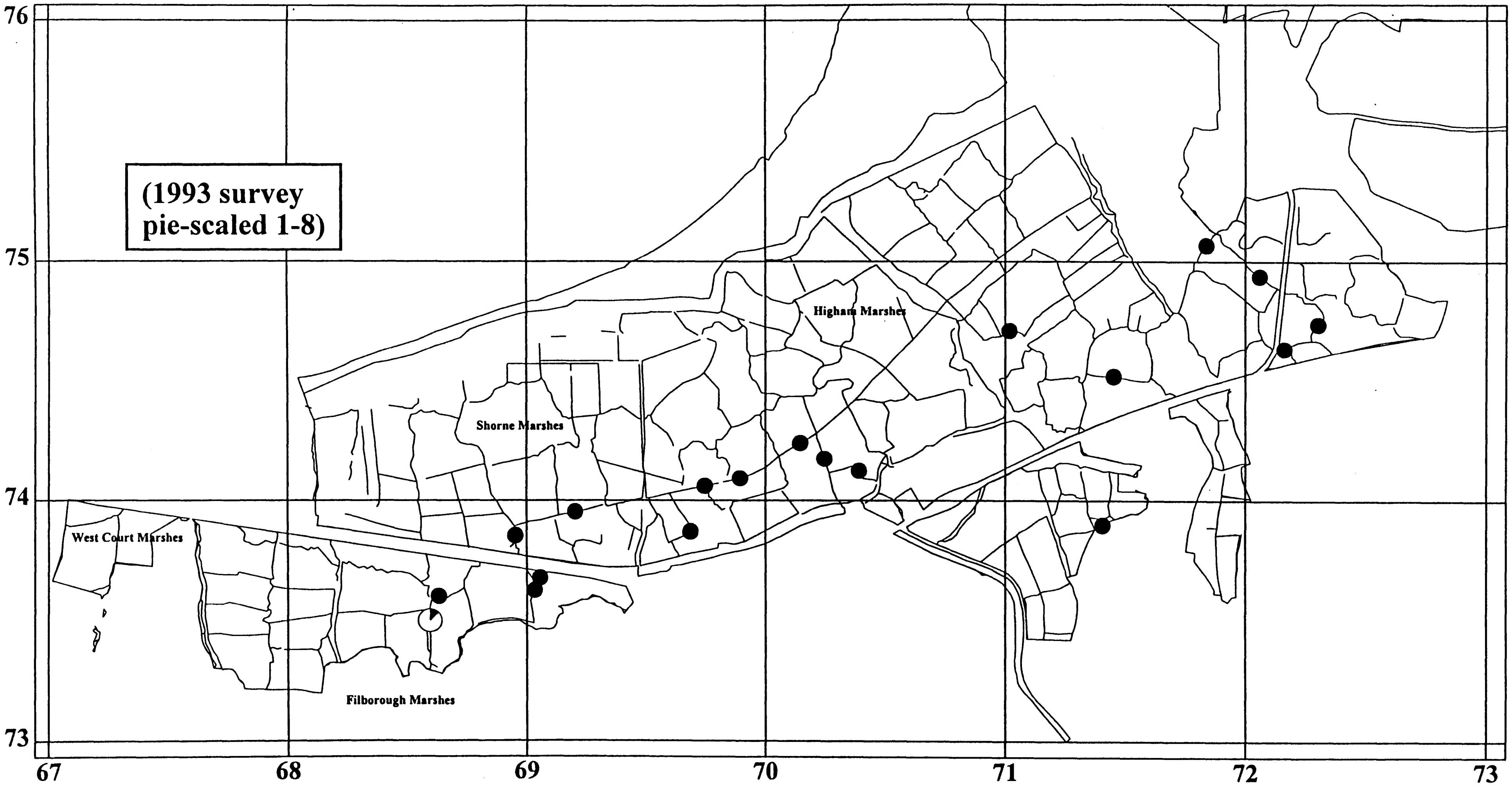
Stratiotes aloides



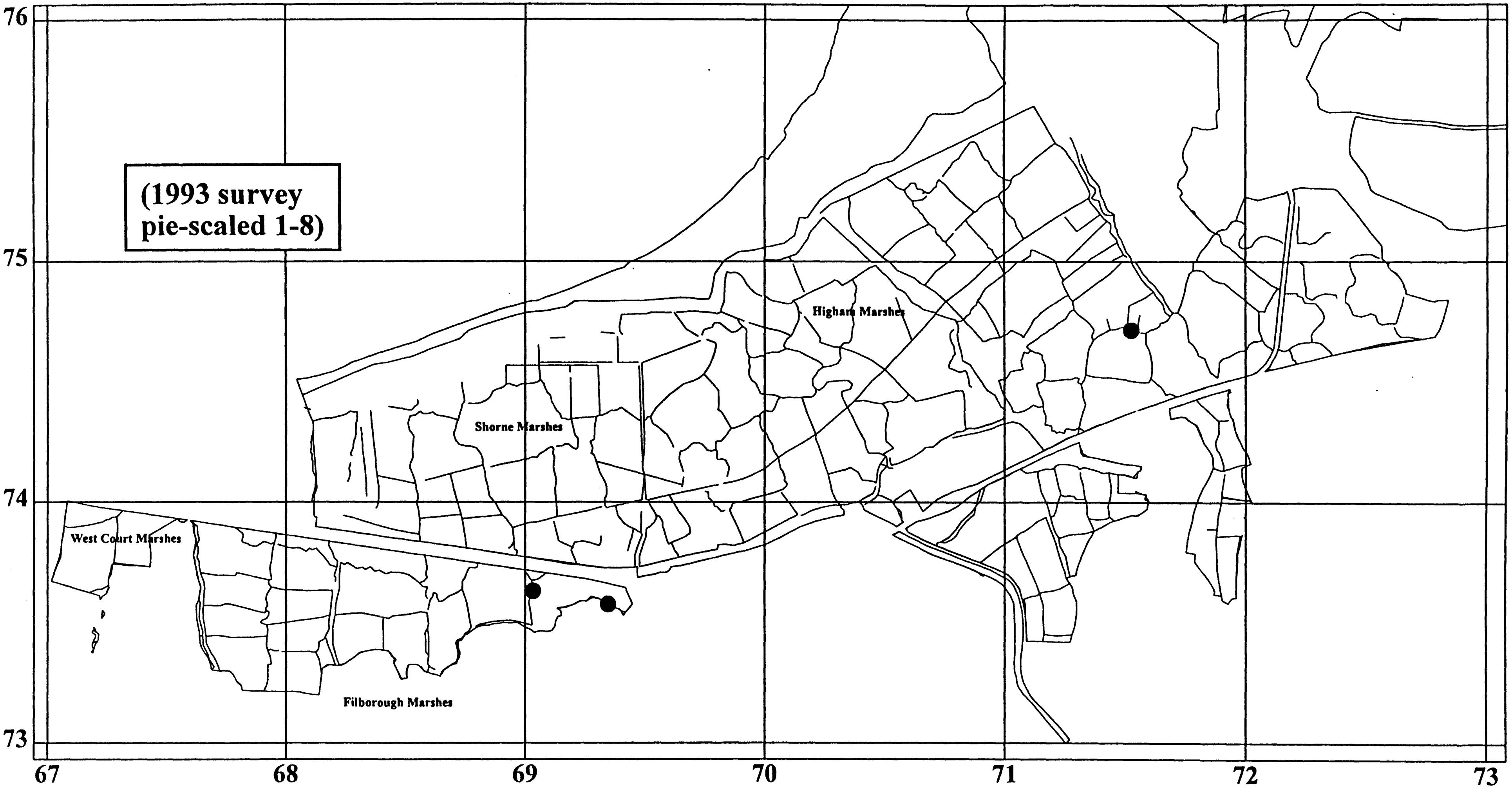
Zannichellia palustris



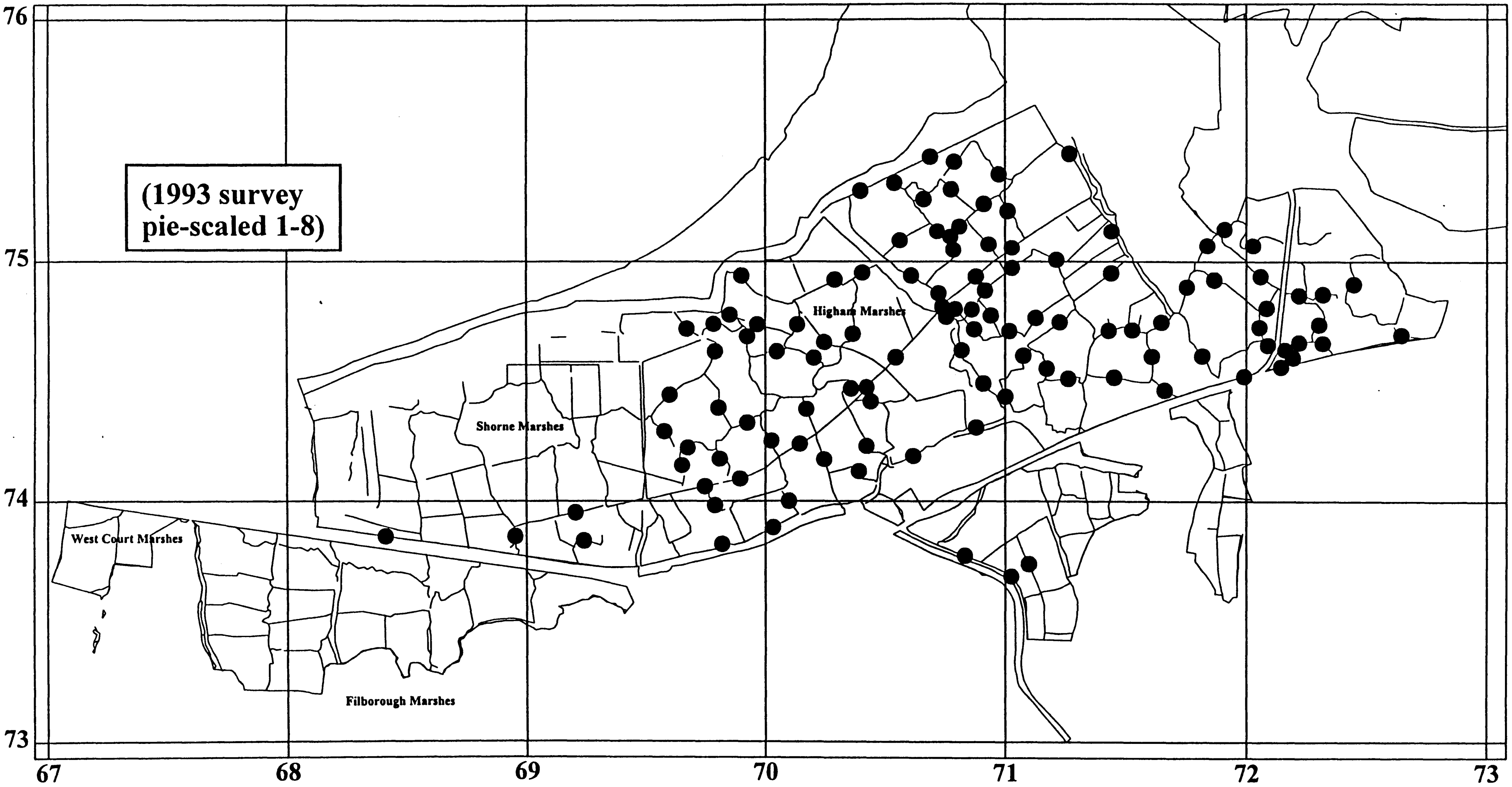
Alisma plantago-aquatica



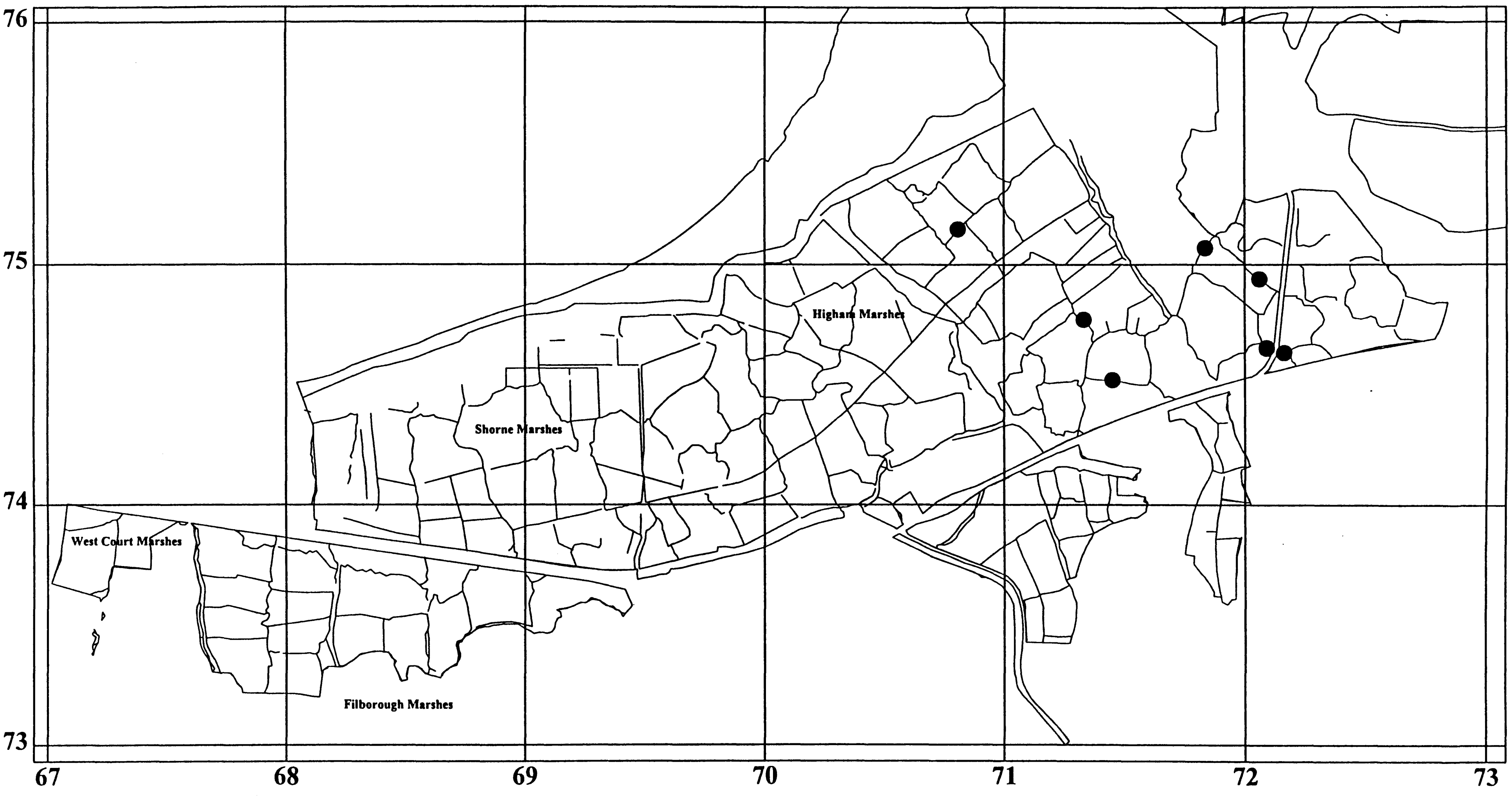
Apium nodiflorum



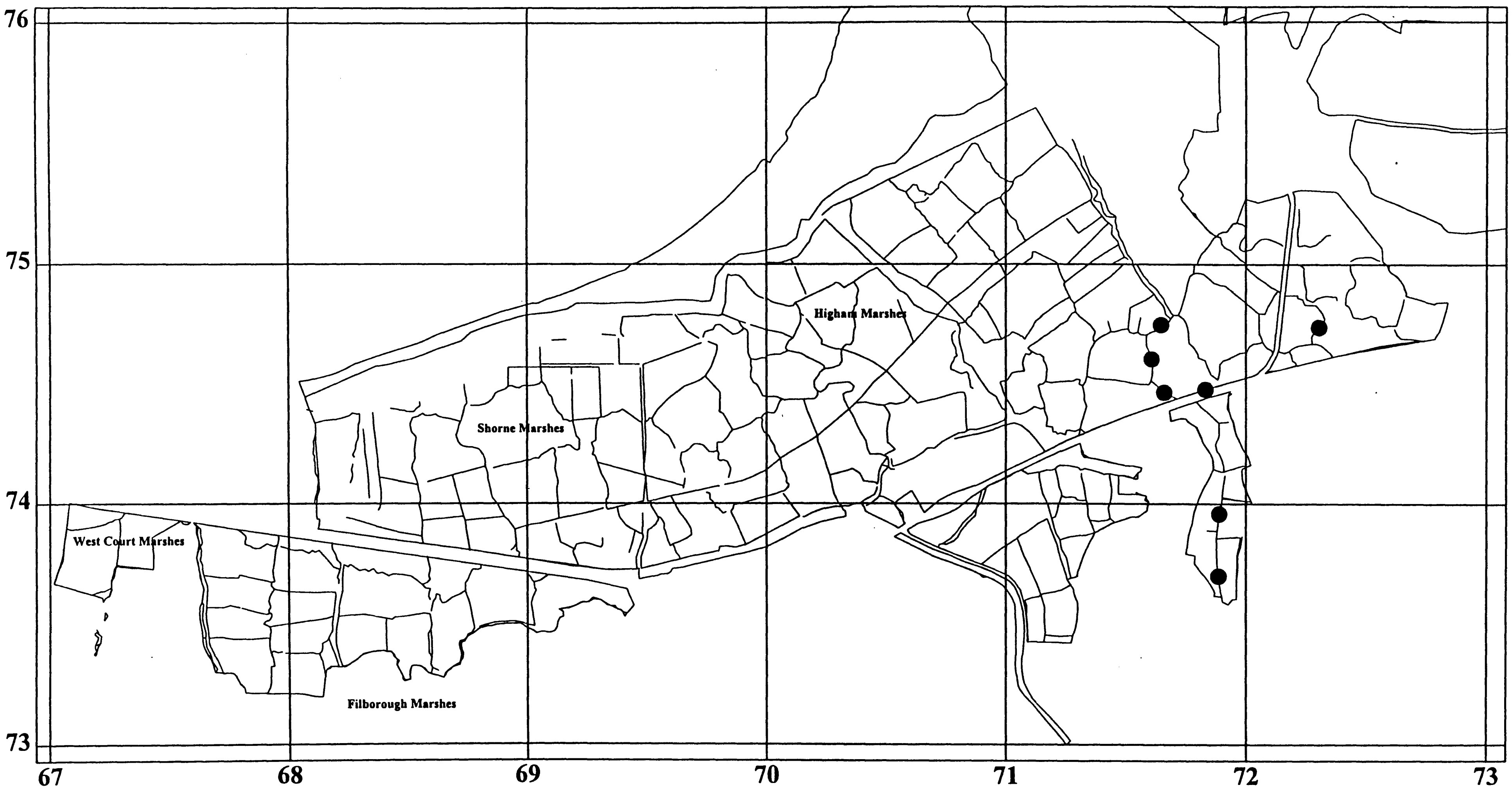
Berula erecta



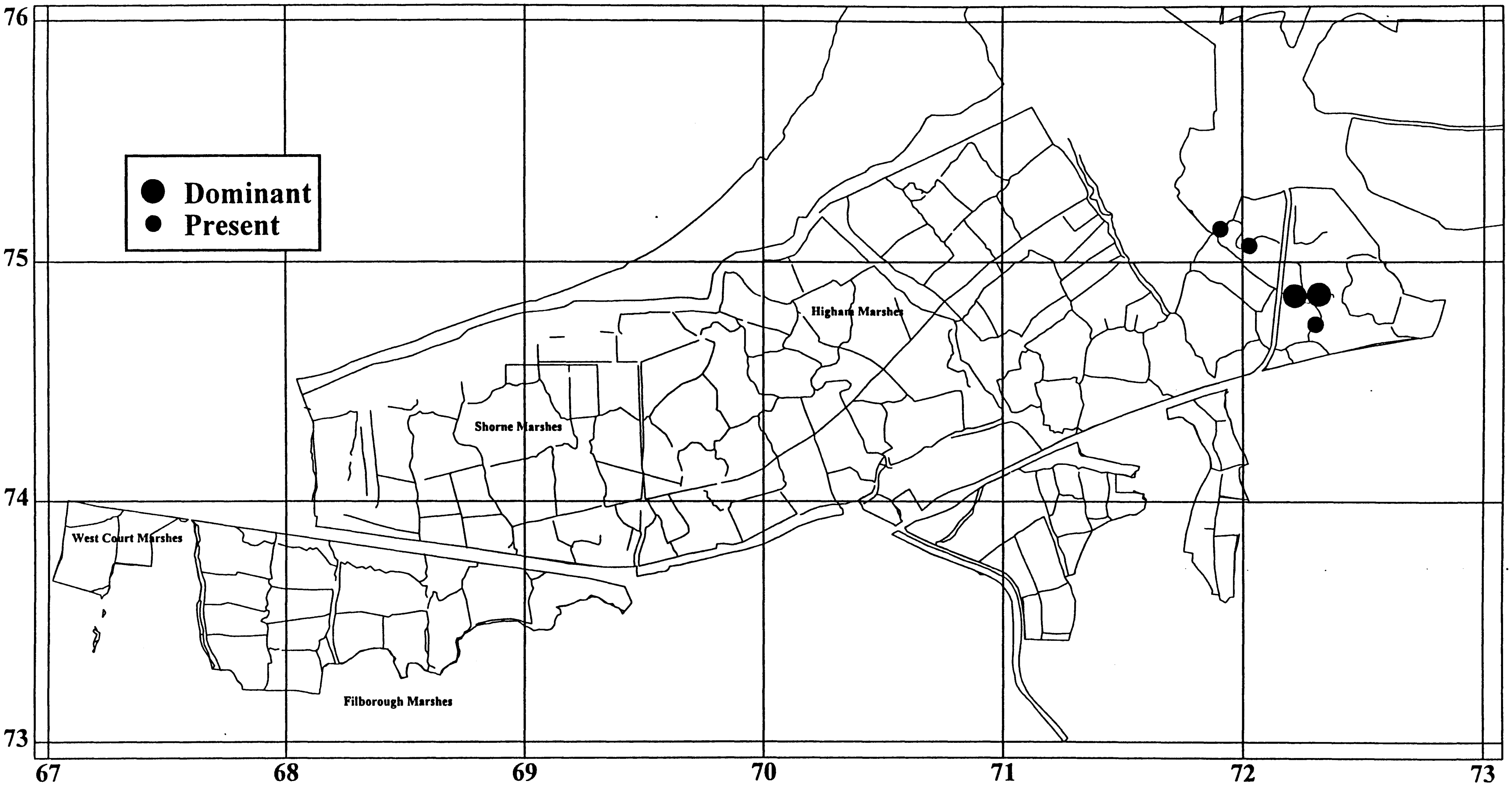
Butomus umbellatus



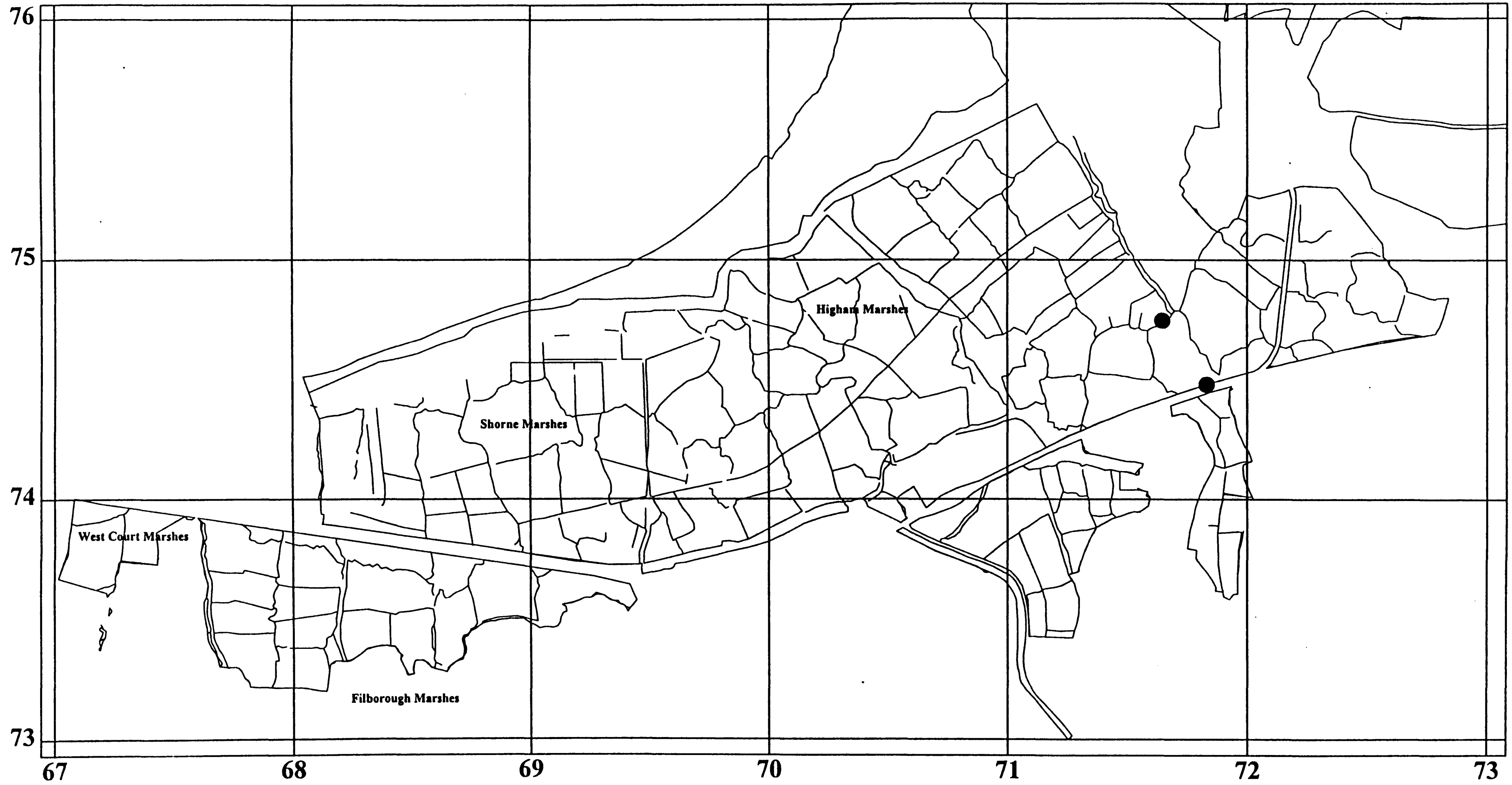
Carex riparia



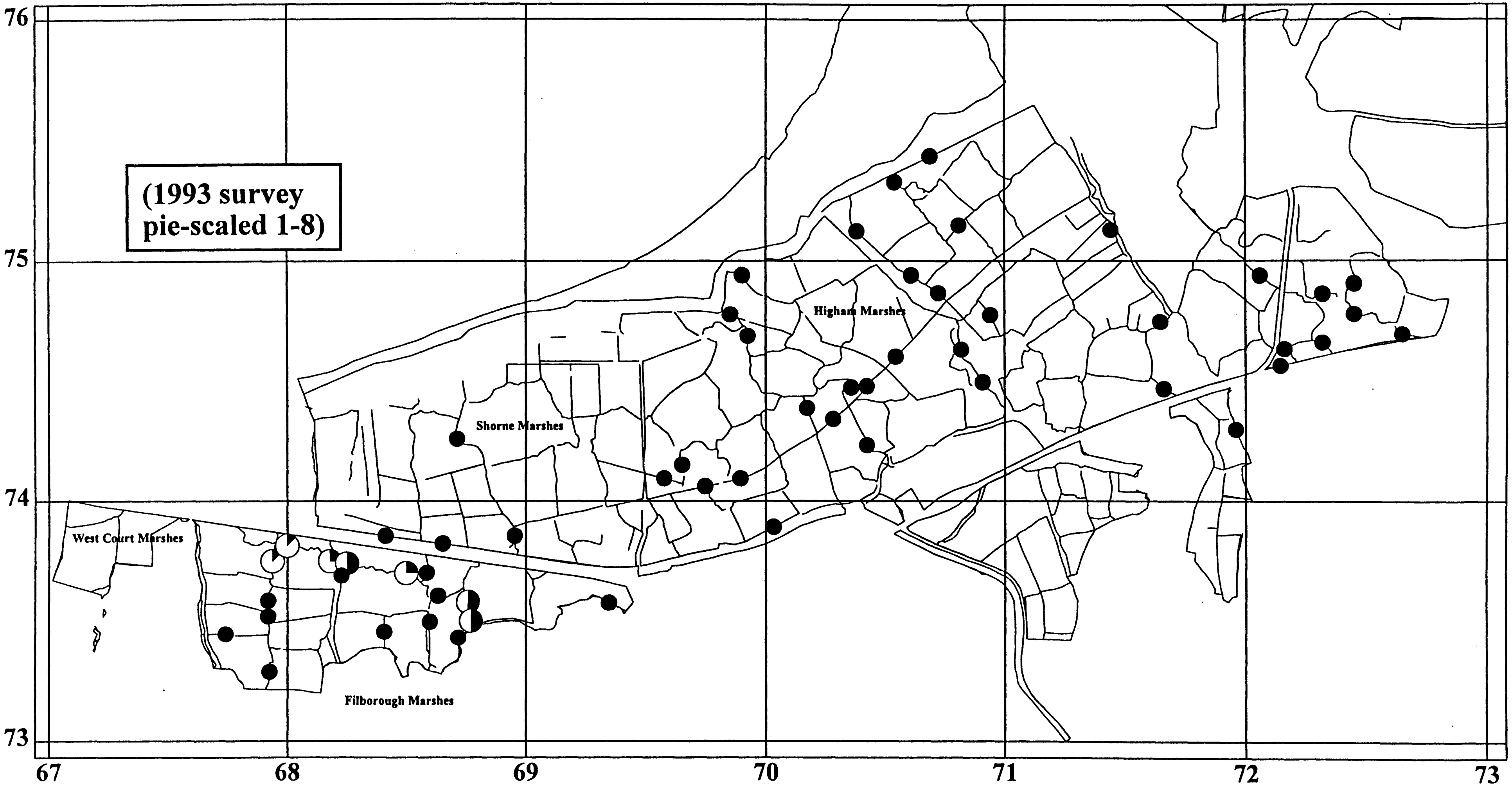
Glyceria maxima



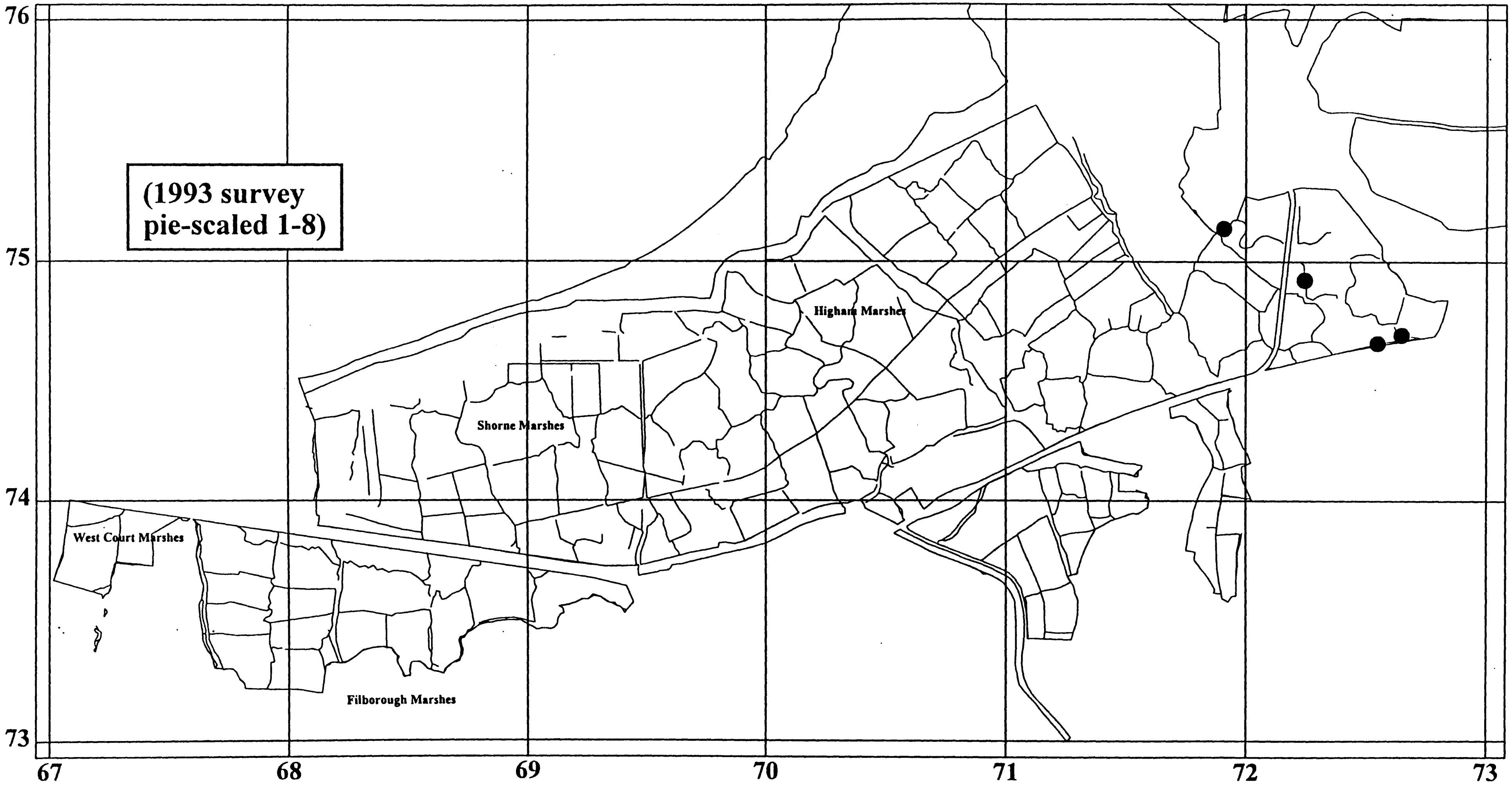
Iris pseudacorus



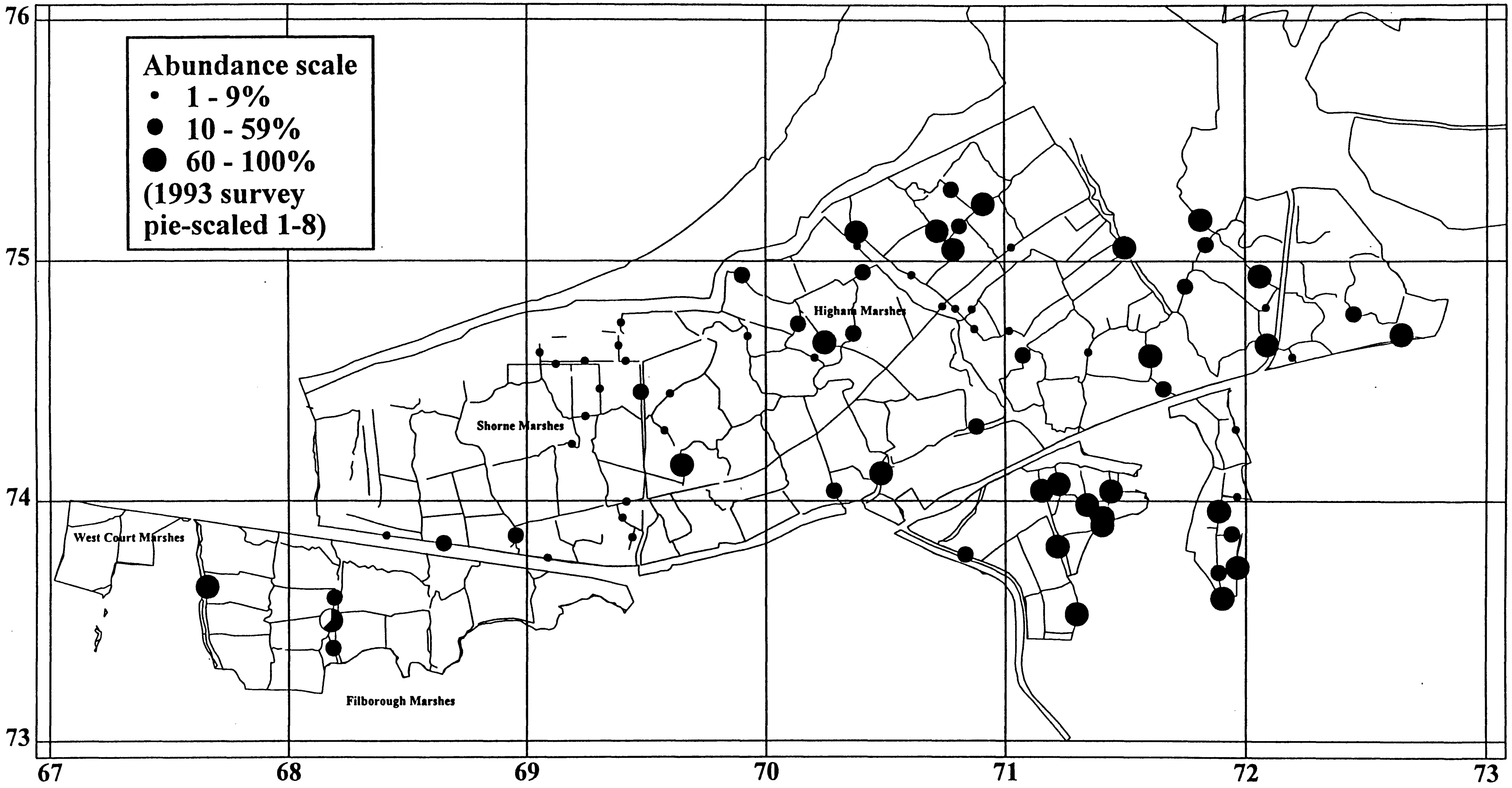
Nasturtium officinale agg



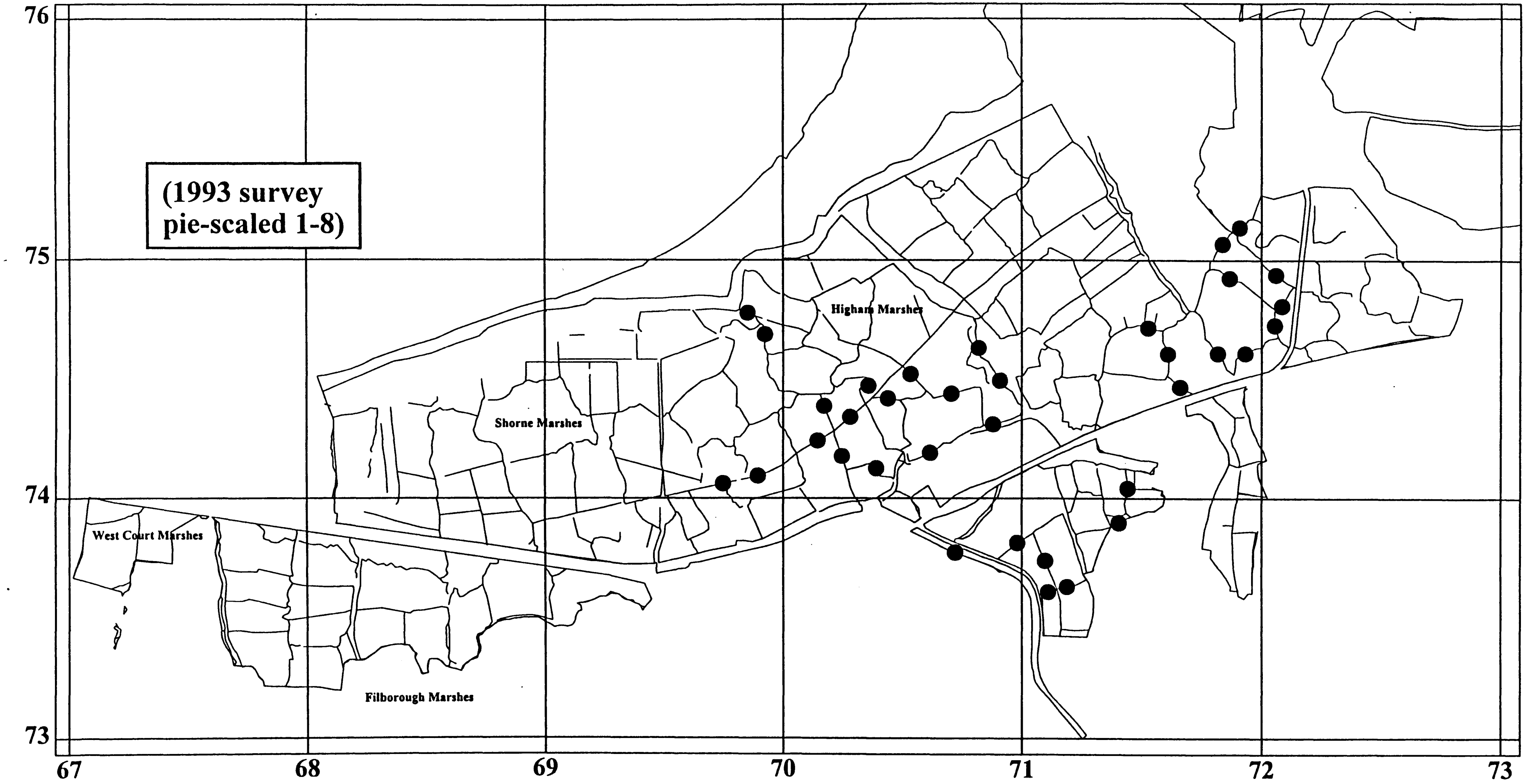
Oenanthe fistulosa



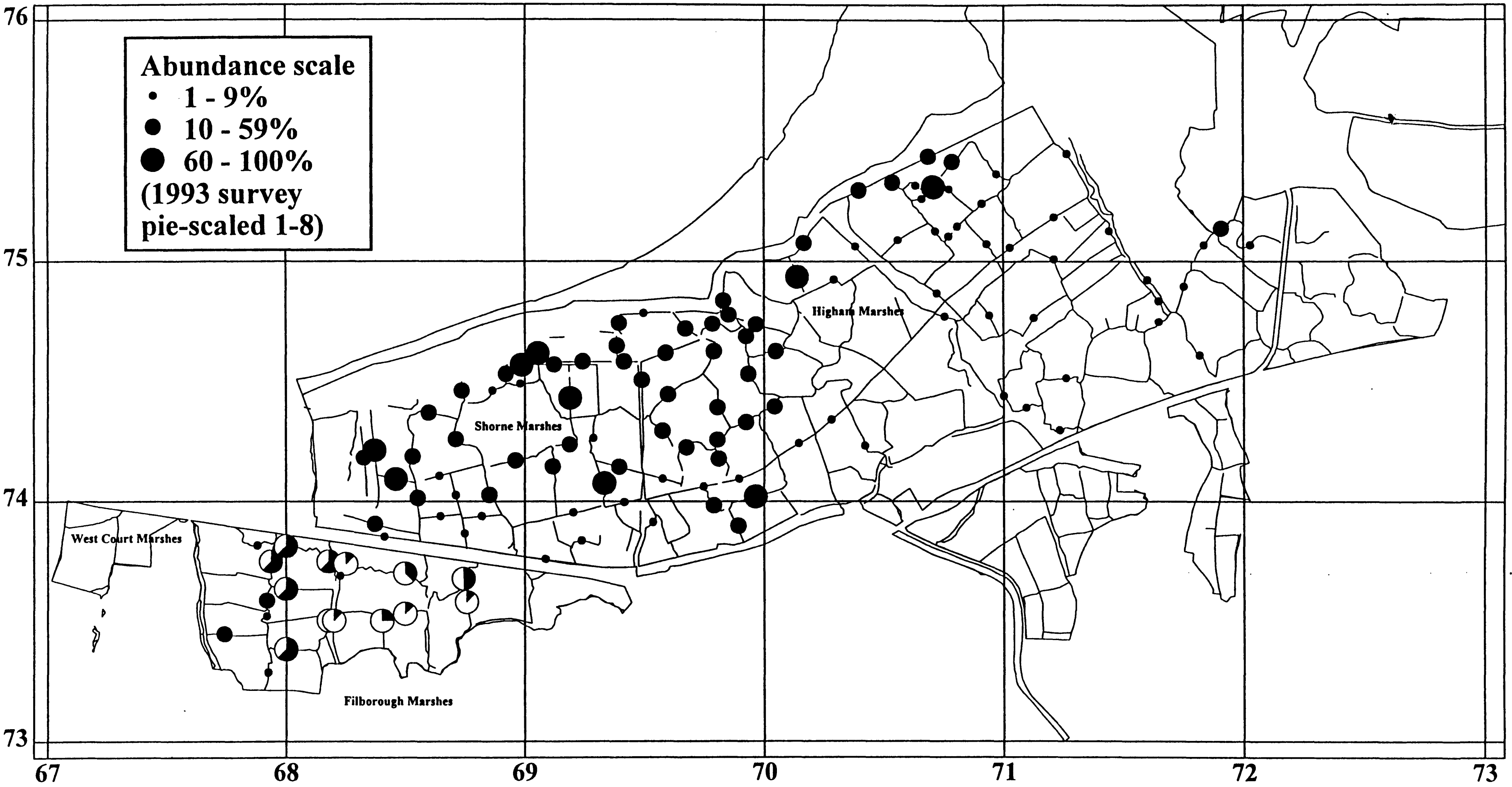
Phragmites australis



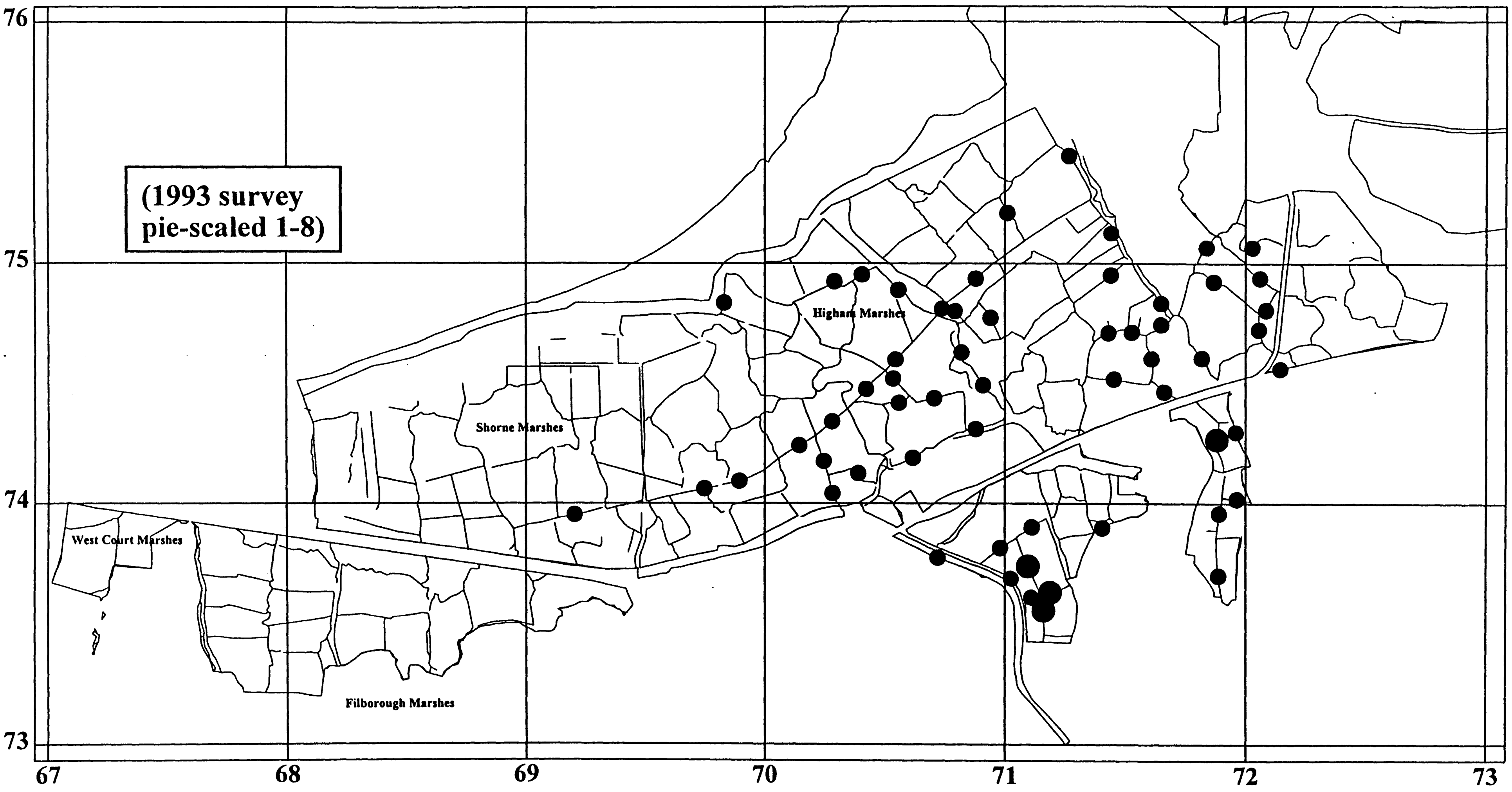
Rumex hydrolapathum



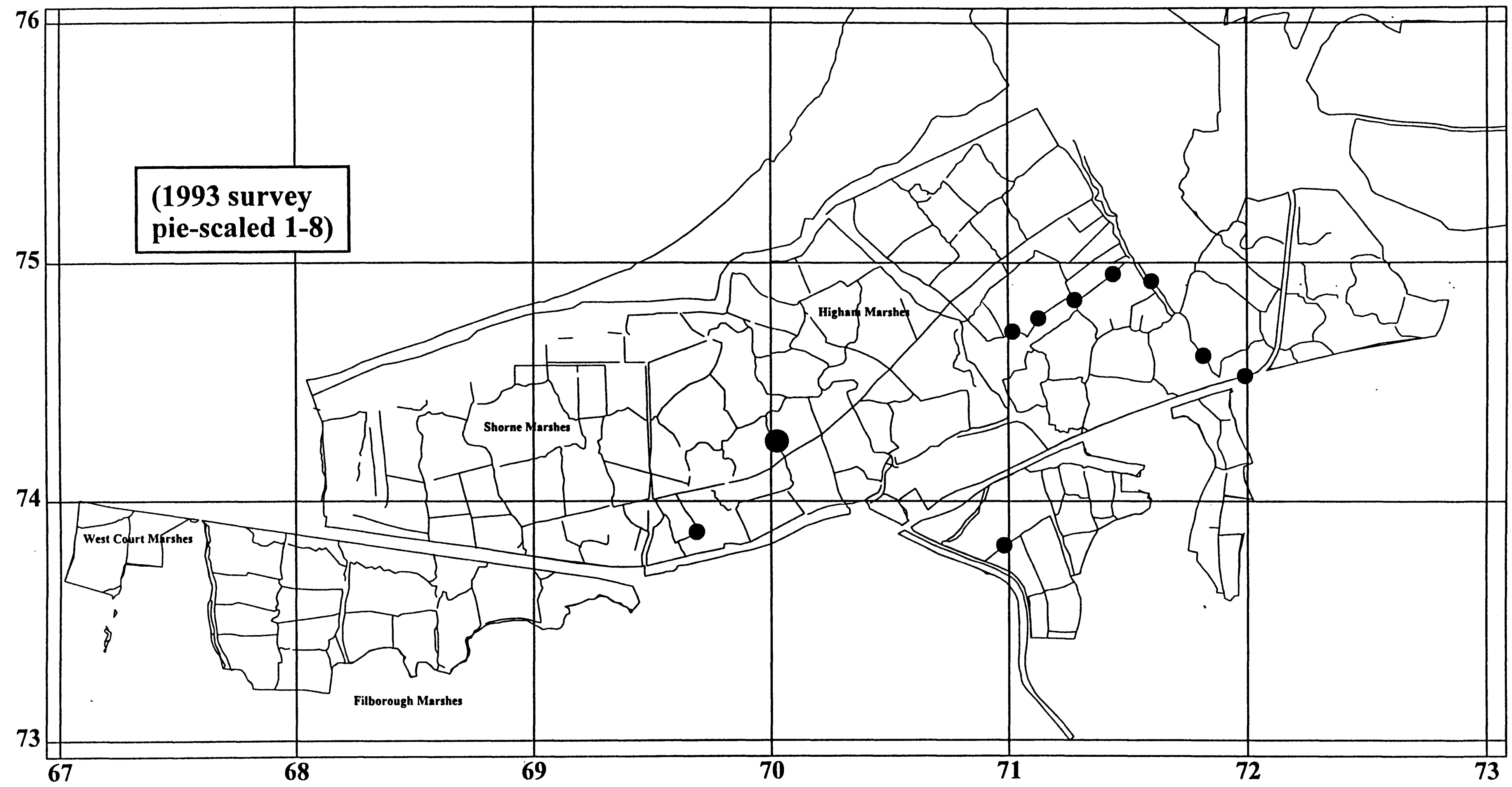
Scirpus maritimus



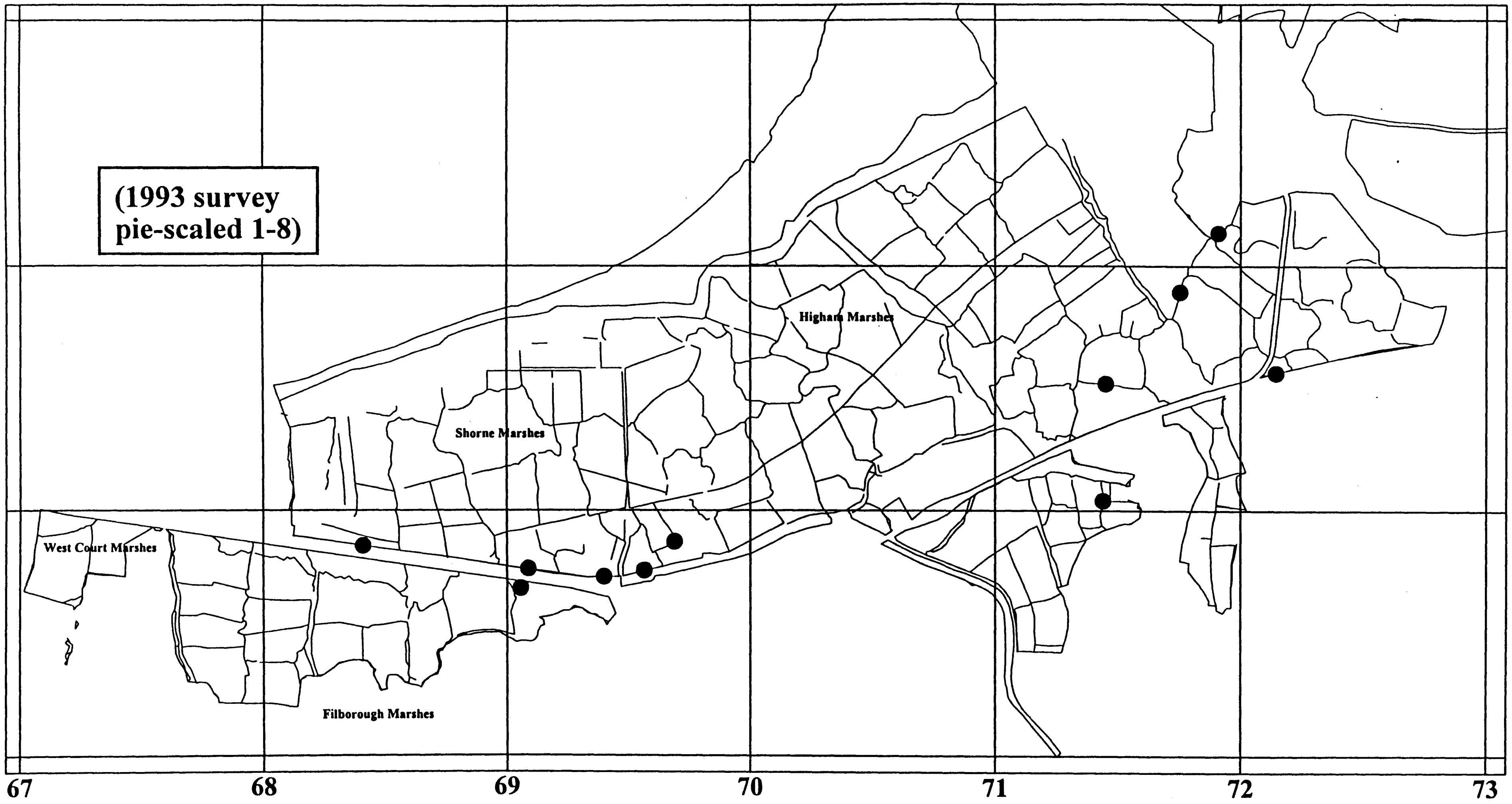
Sparganium erectum



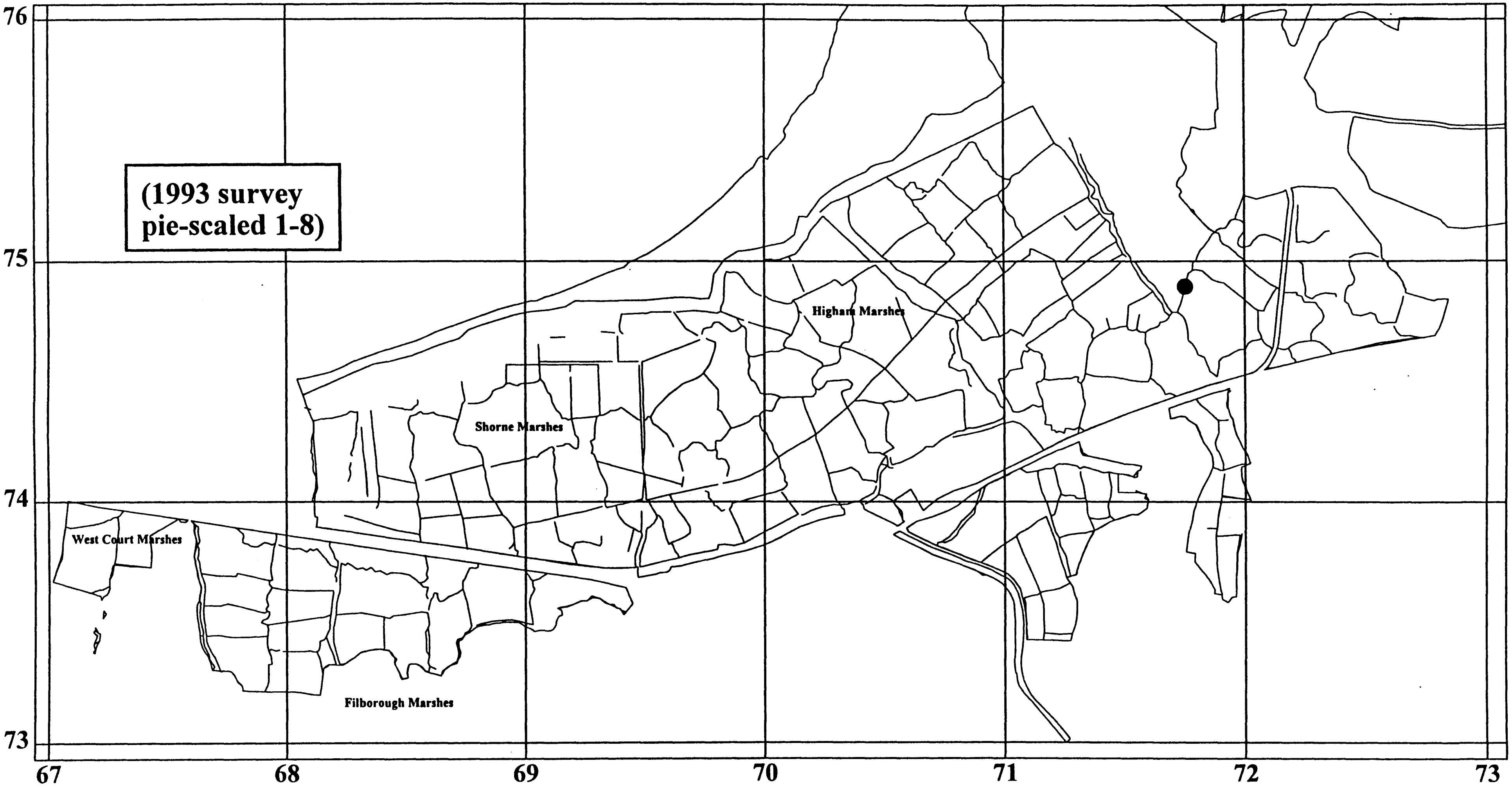
Typha angustifolia



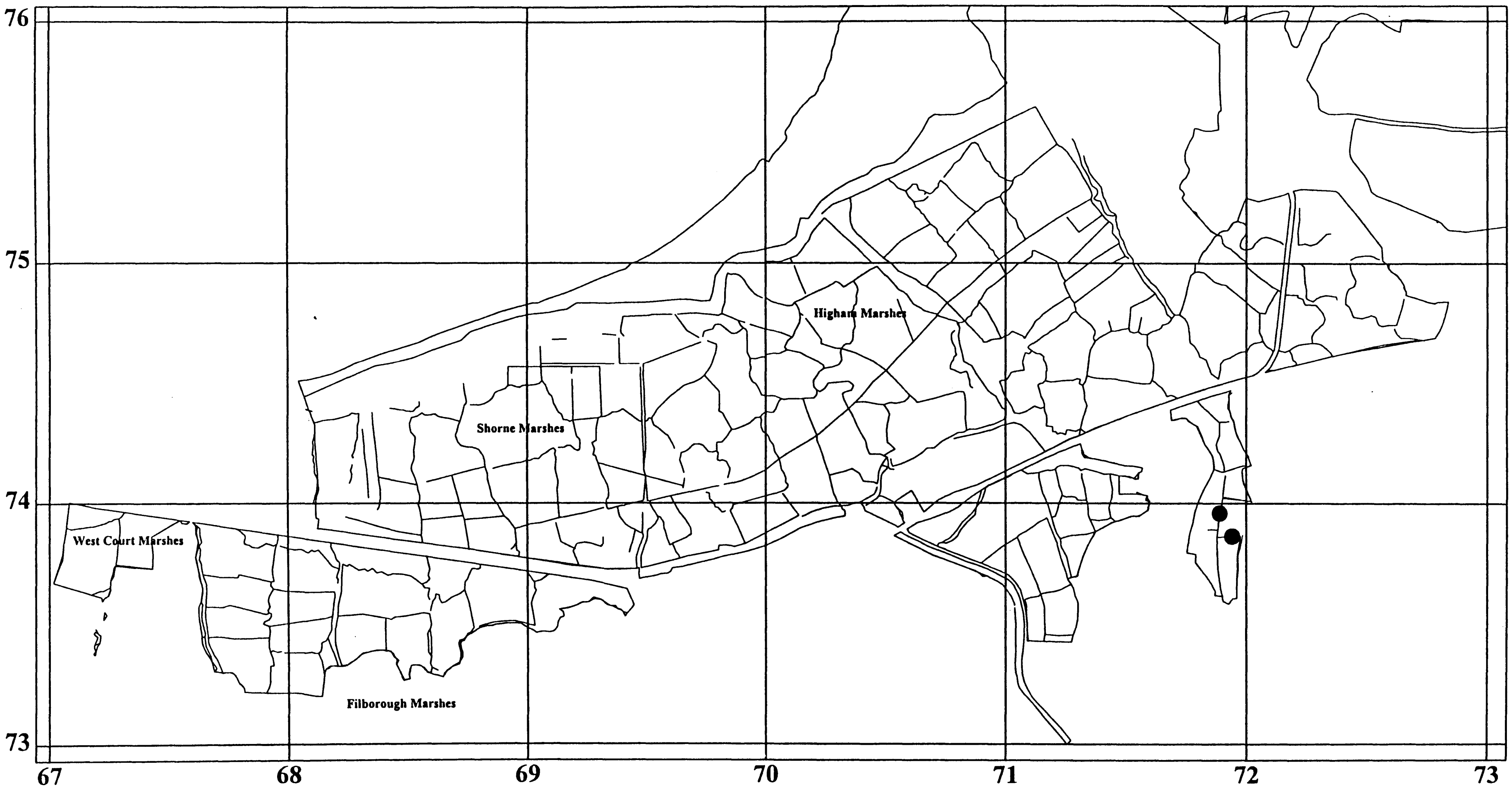
Typha latifolia



Veronica catenata

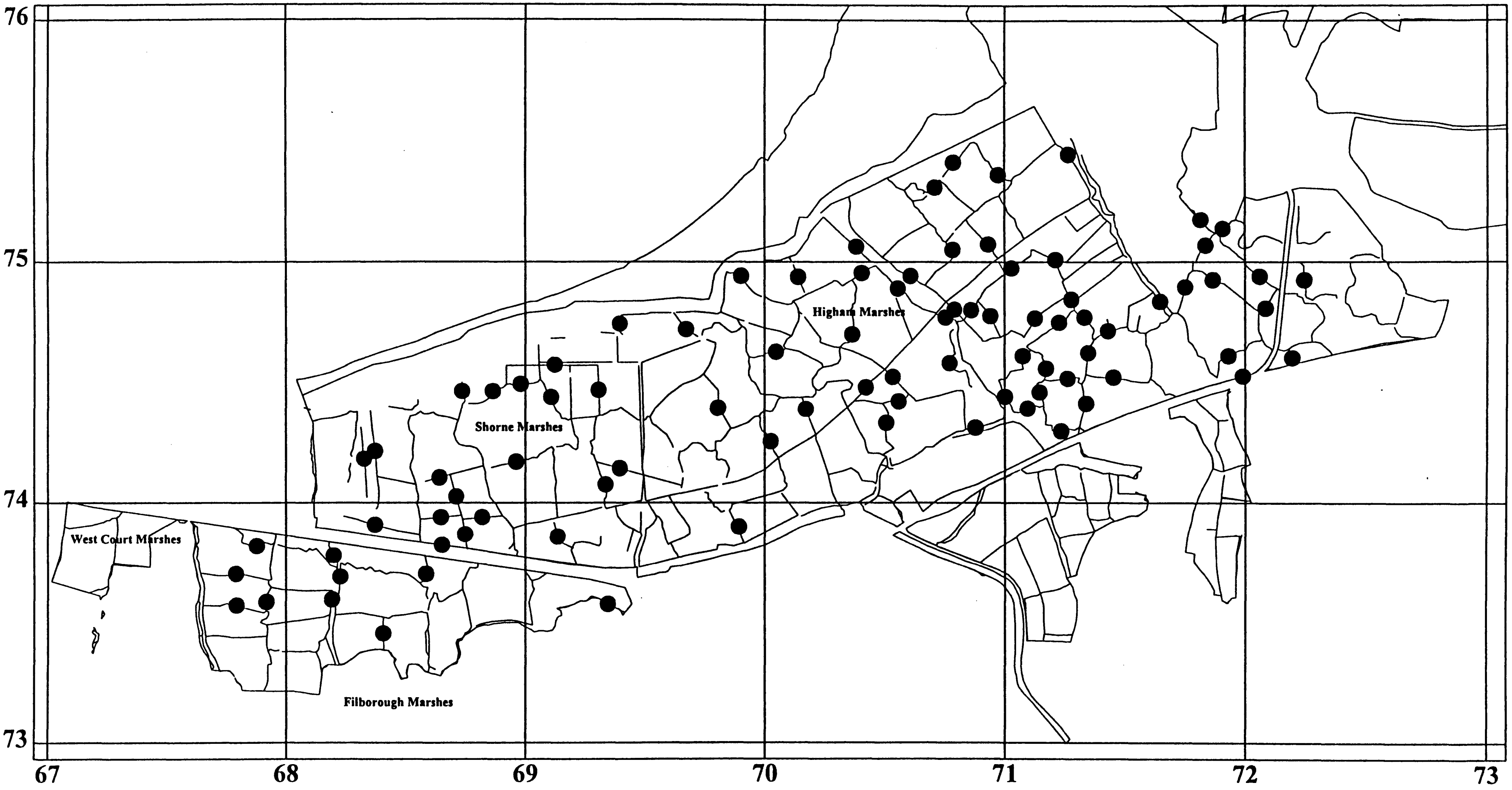


Carex acuta

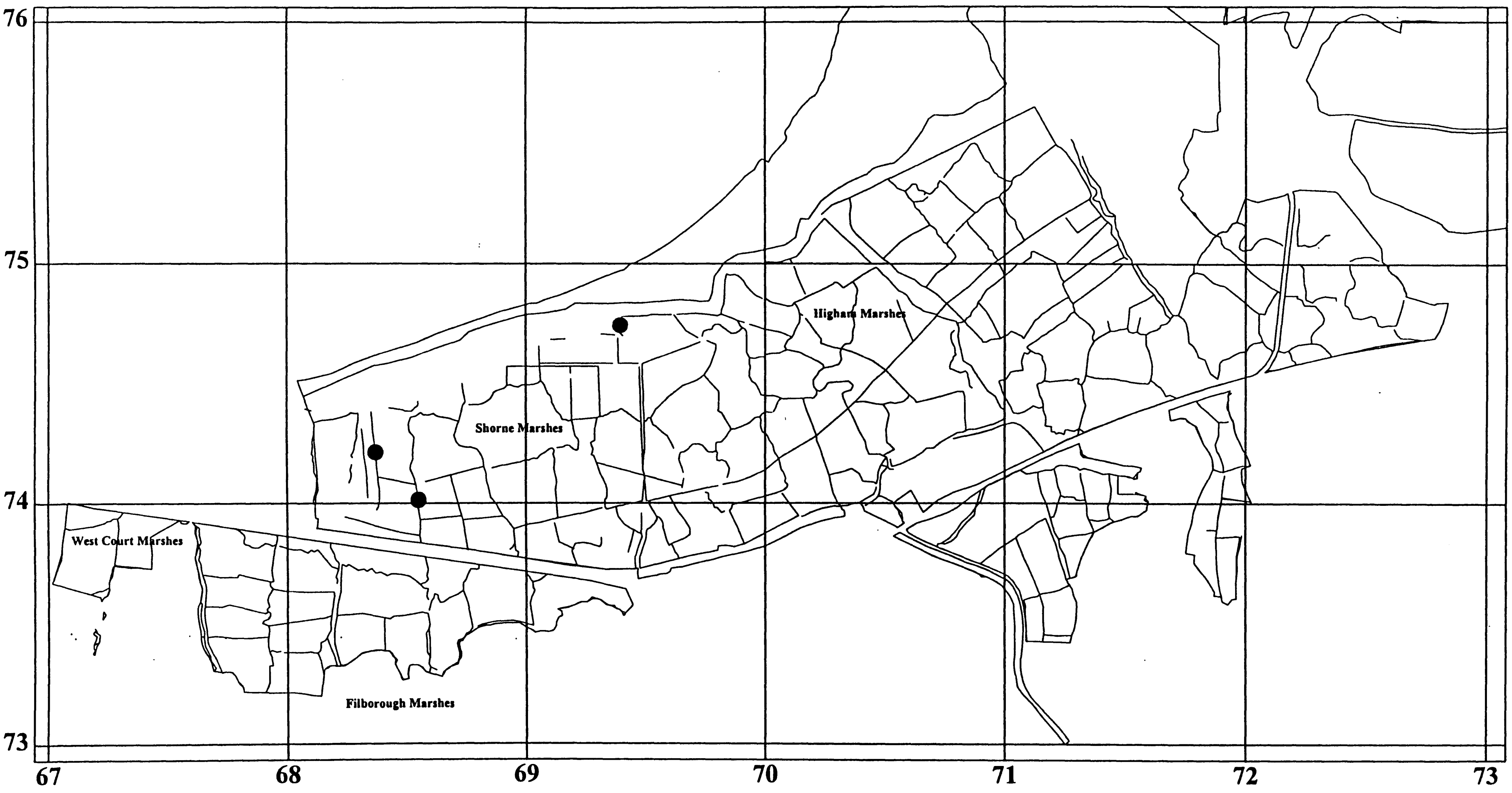


76
75
74
73
67
68
69
70
71
72
73
West Court Marshes
Shorne Marshes
Higham Marshes
Filborough Marshes

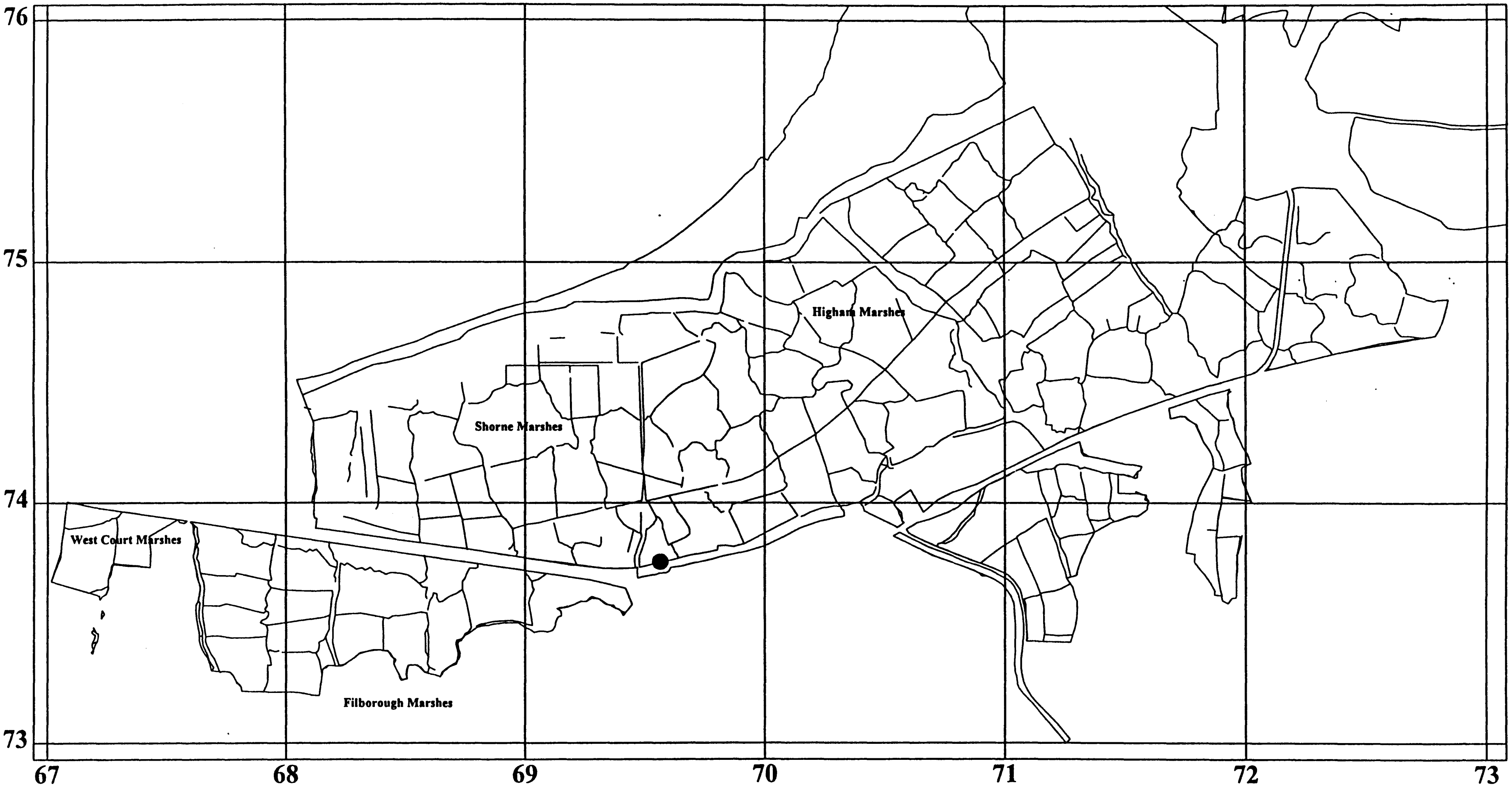
Carex divisa



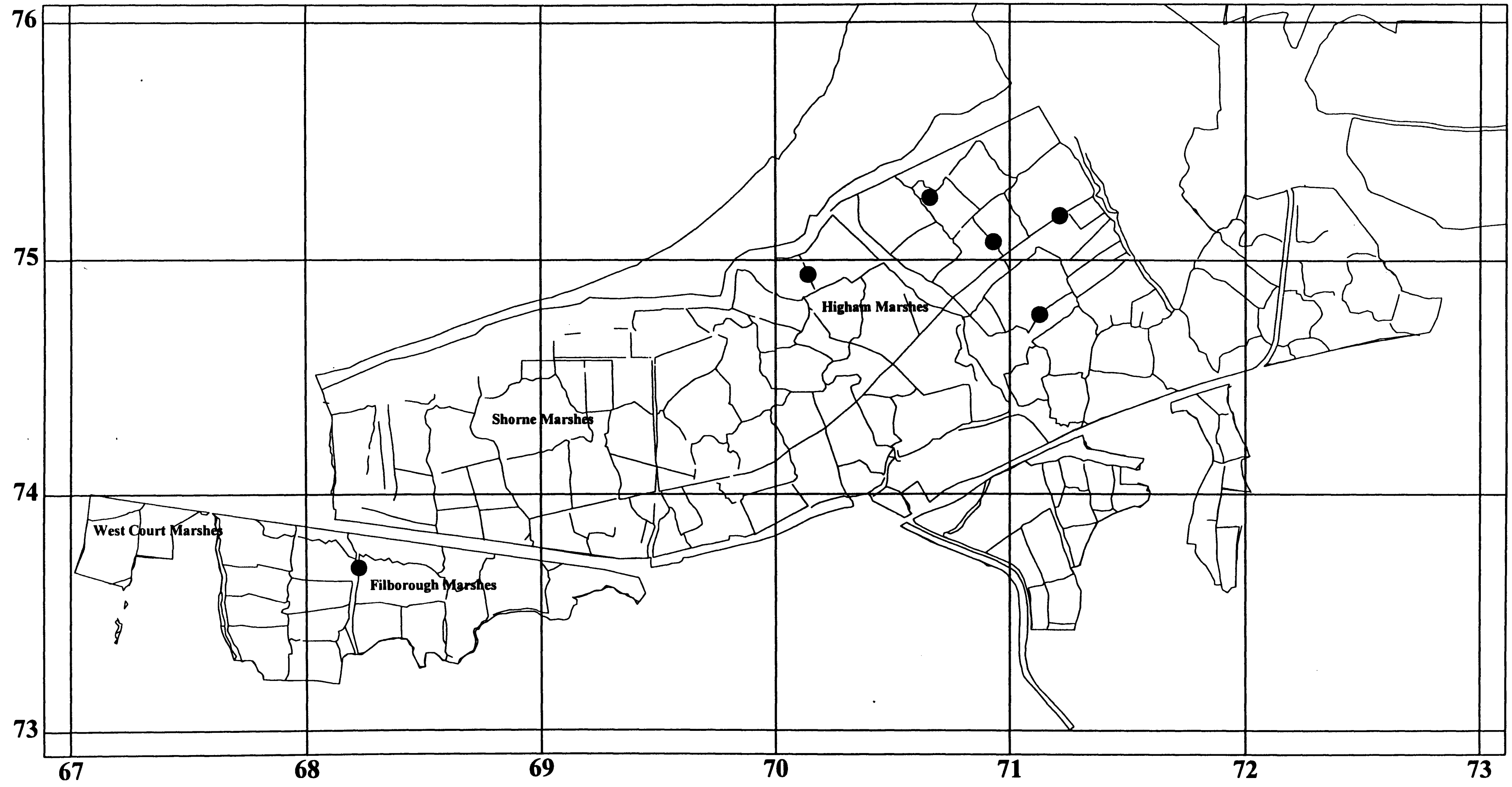
Chenopodium chenopodioides



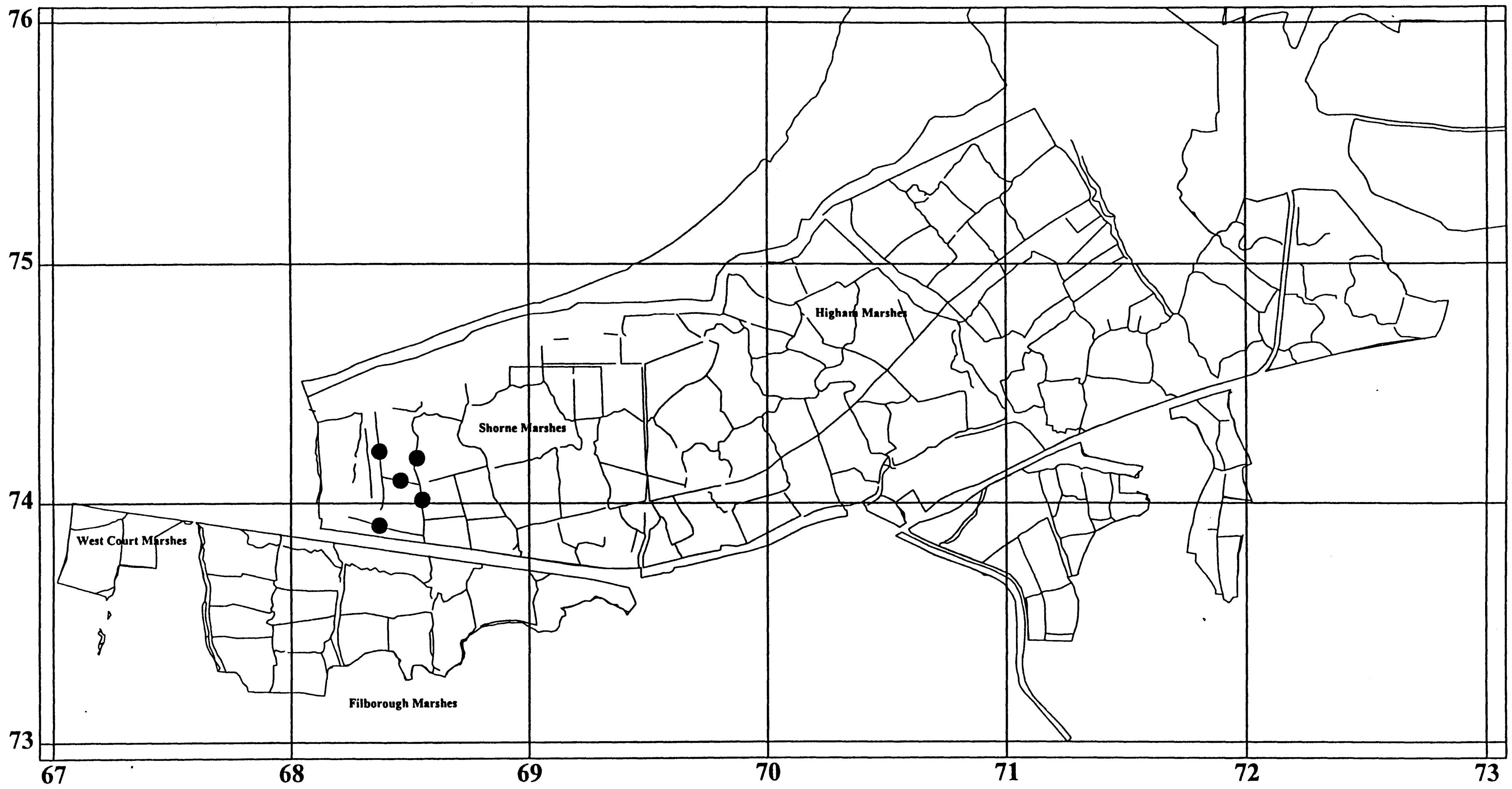
Crassula helmsii



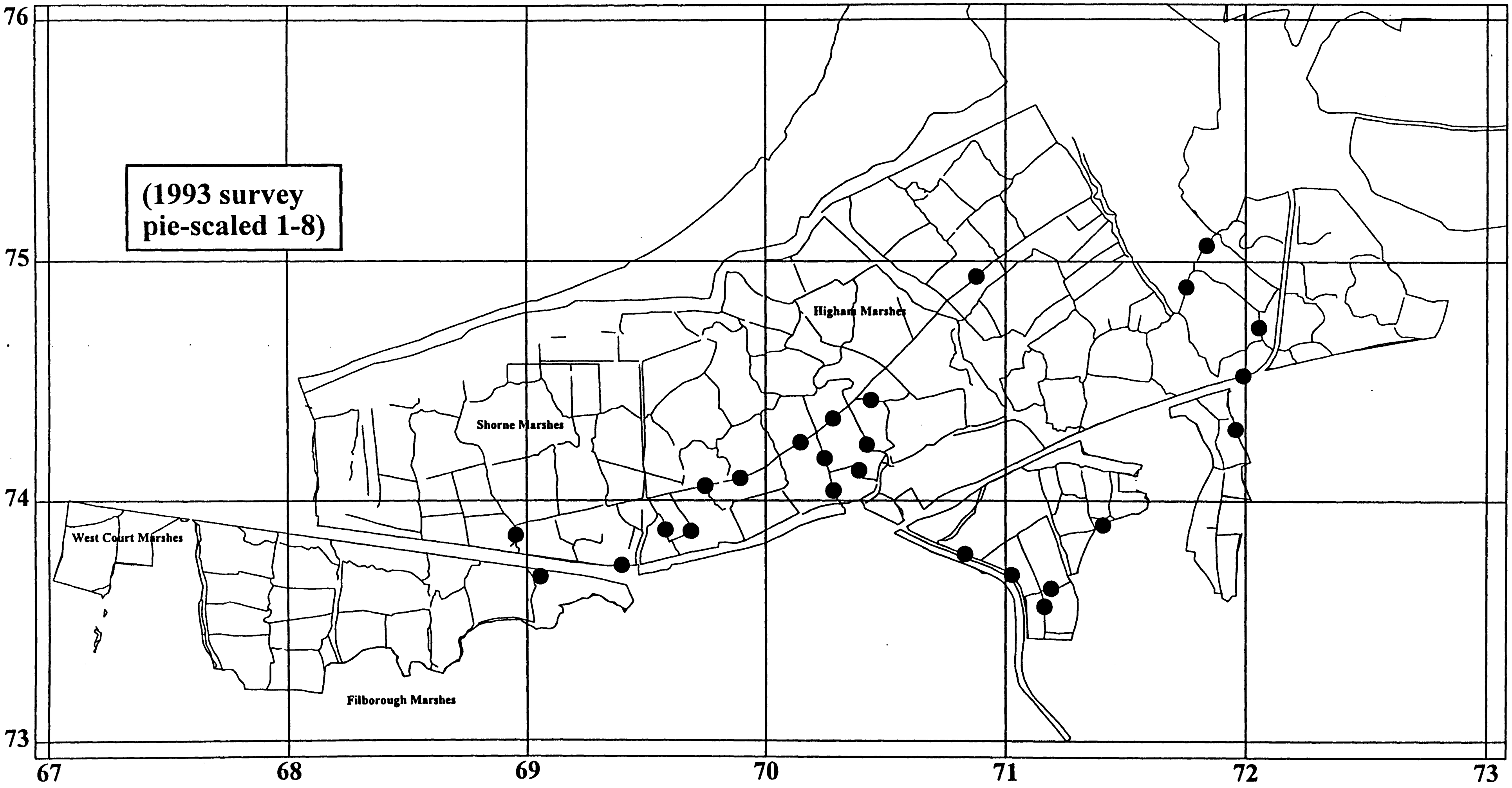
Juncus gerardii



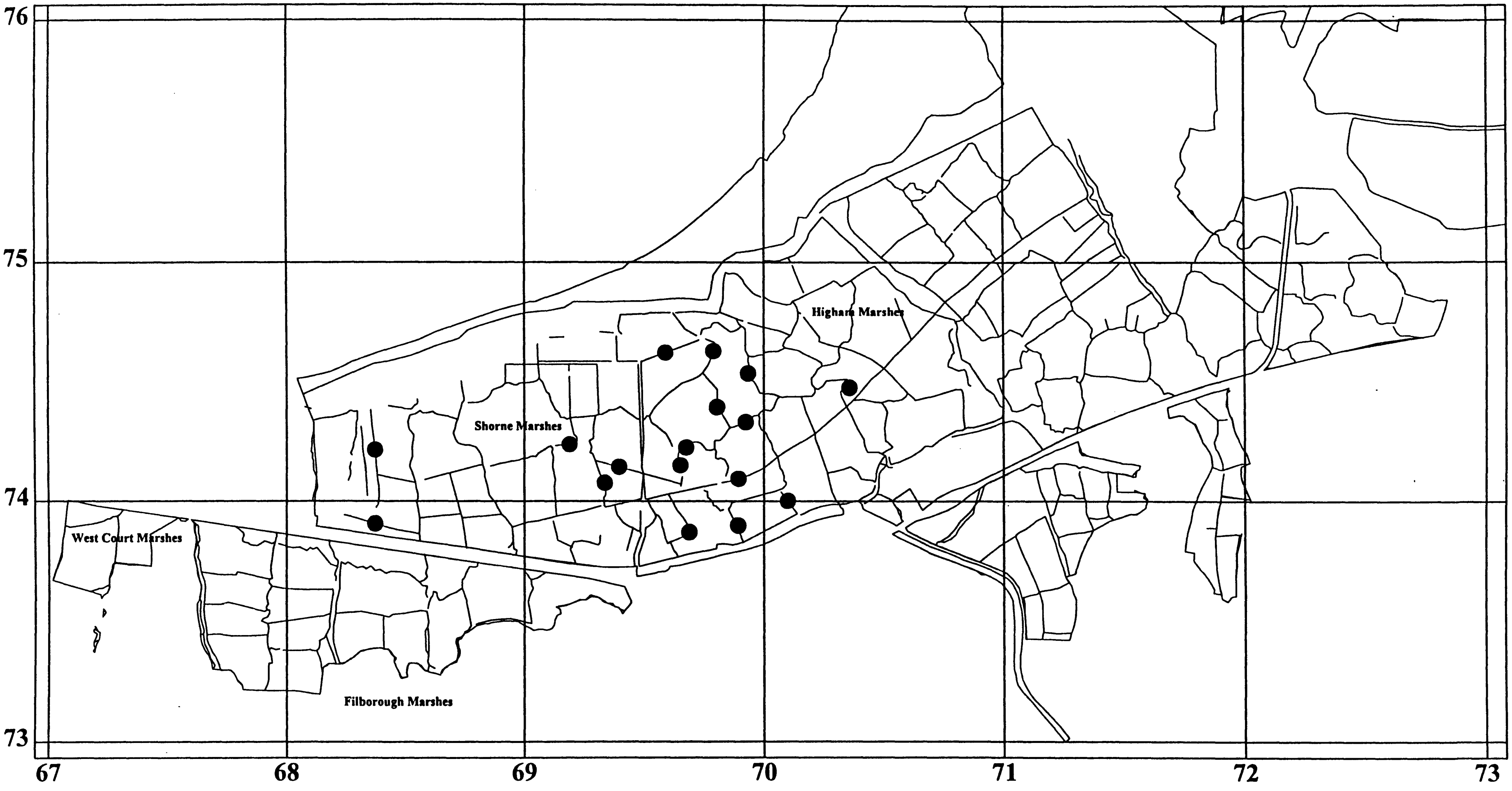
Juncus maritima



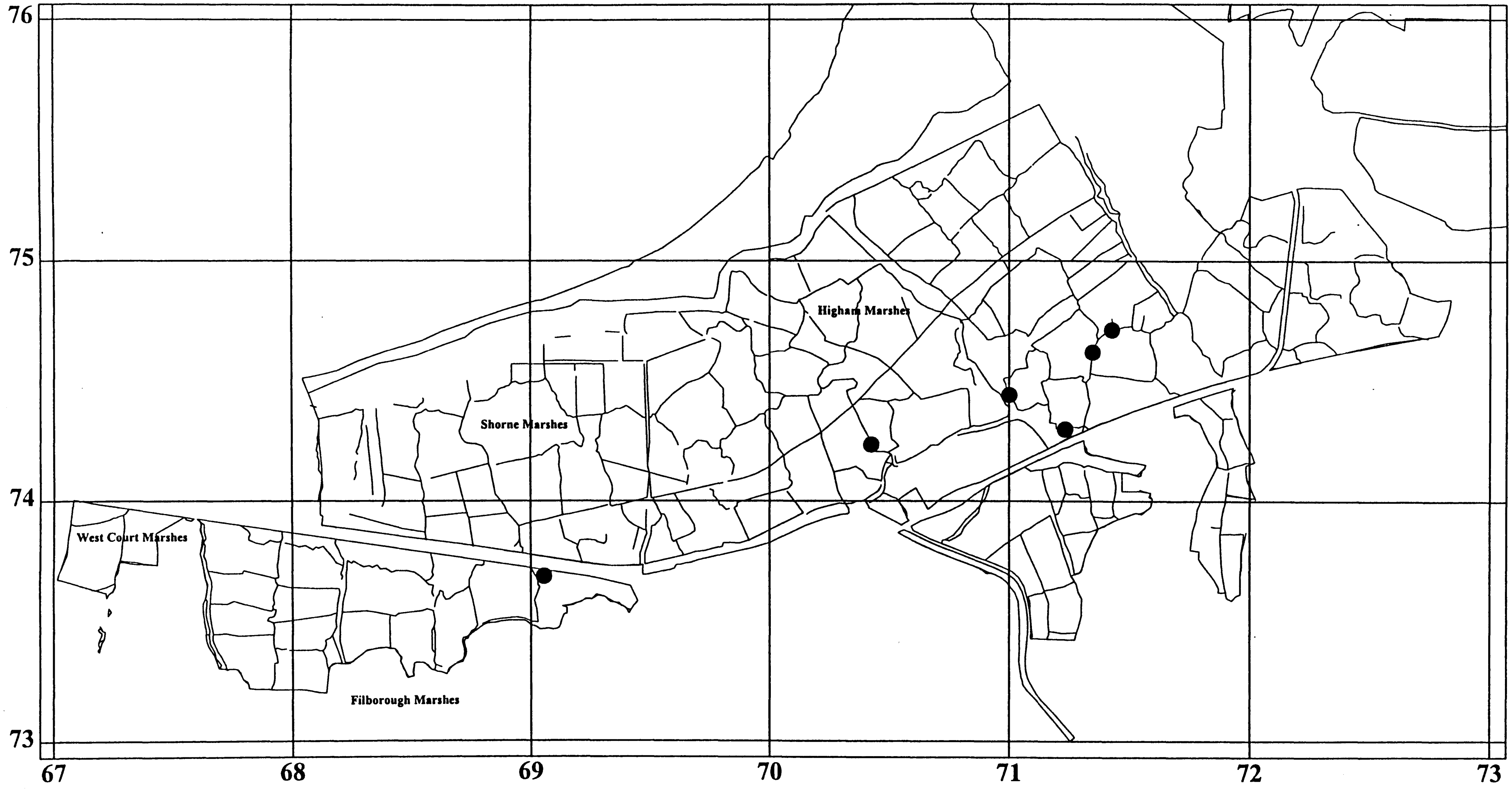
Lycopus europaeus



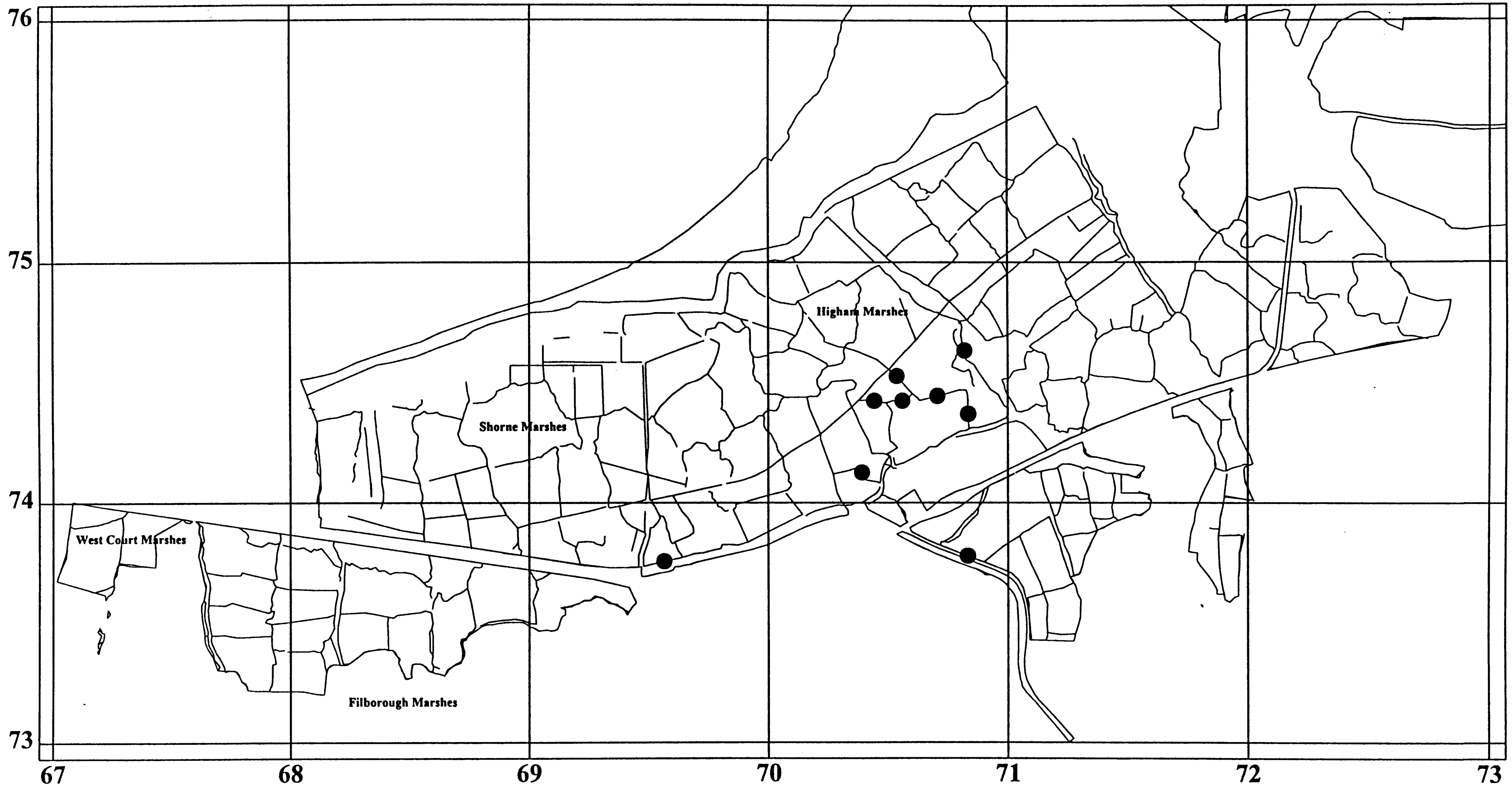
Oenanthe lachenalii



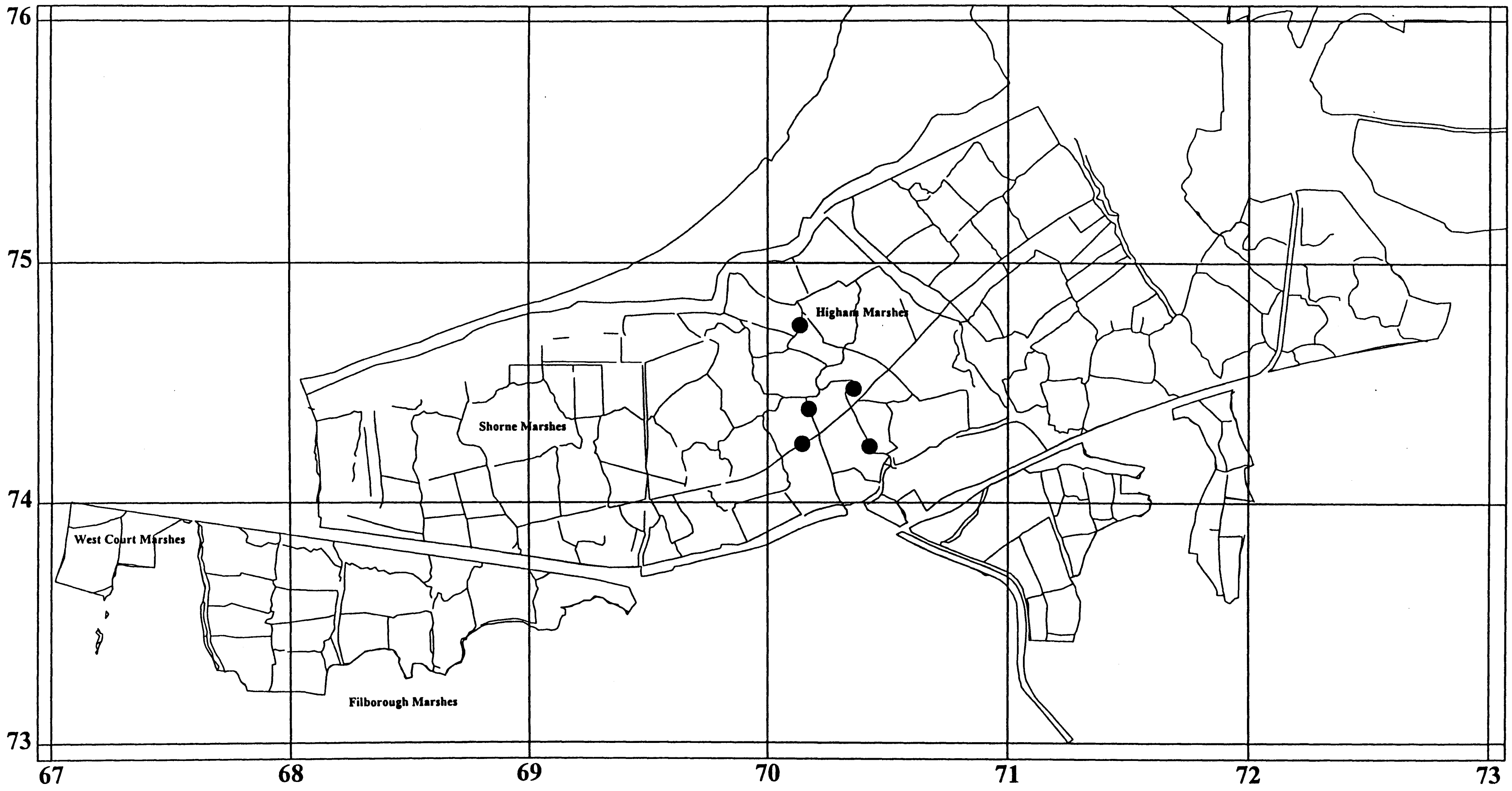
Samolus valerandi



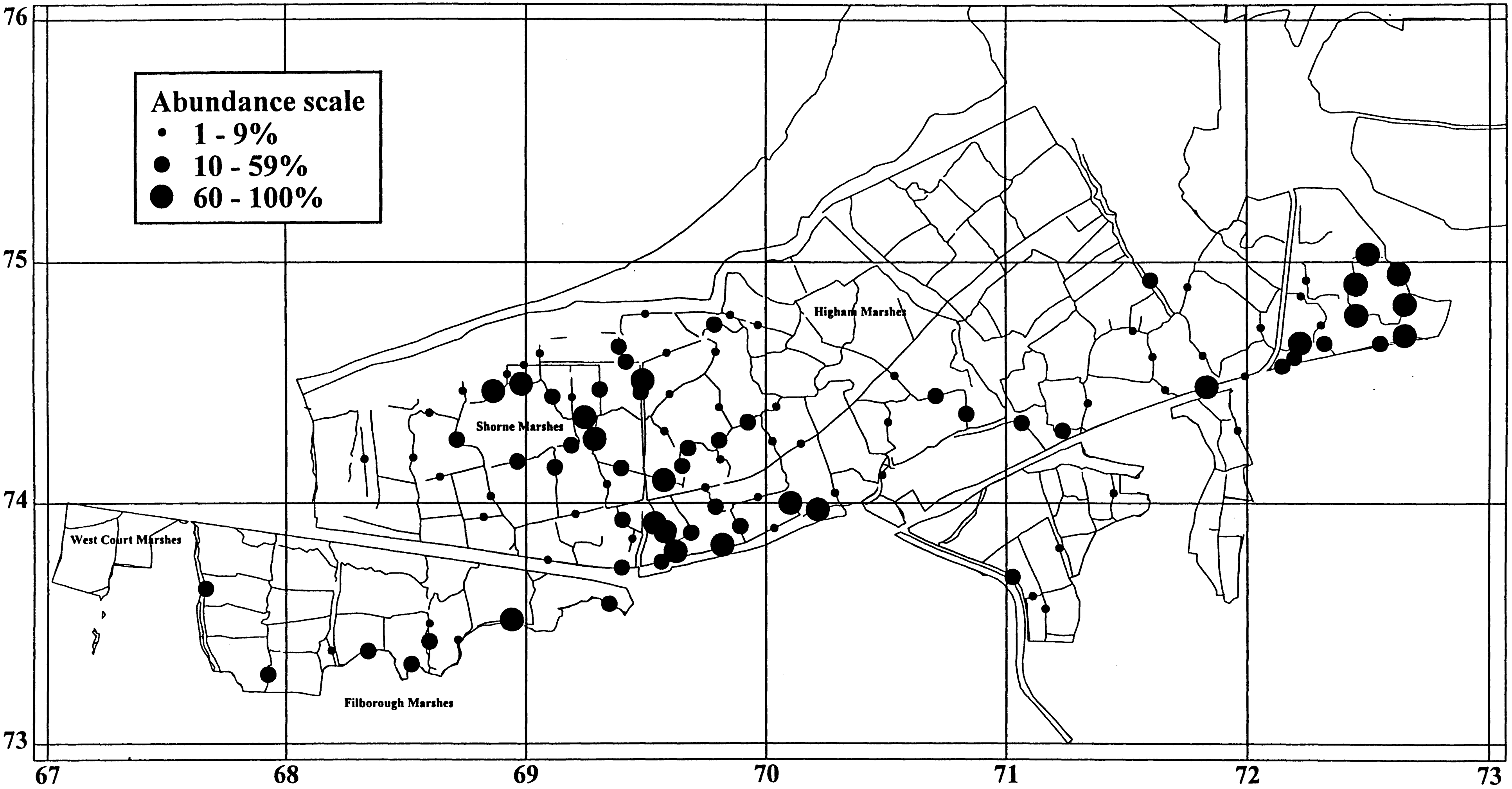
Scutellaria galericulata



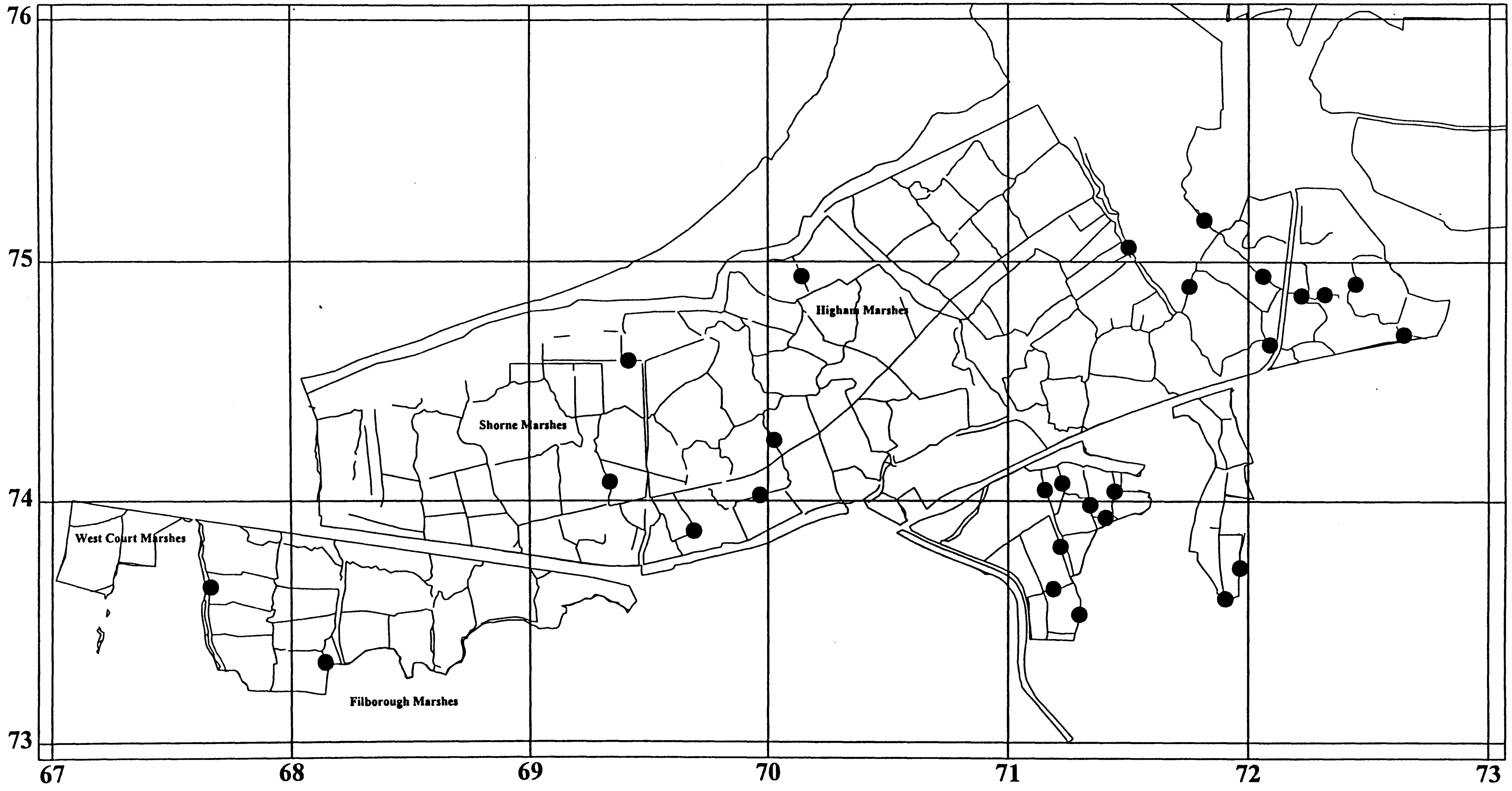
Triglochin palustre



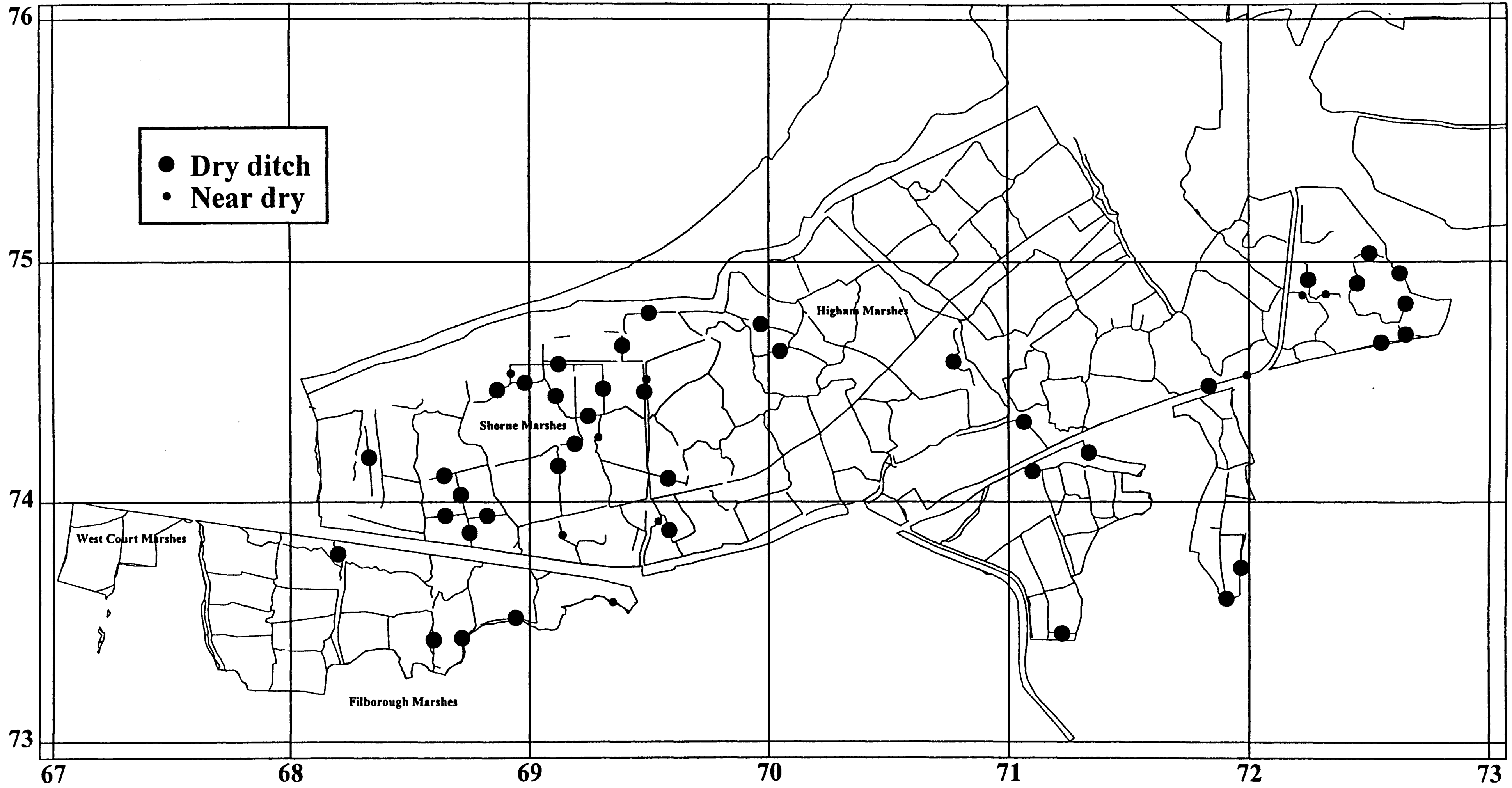
Scrub cover


Abundance scale
• 1 - 9%
● 10 - 59%
● 60 - 100%
Higham Marshes
Shorne Marshes
West Court Marshes
Filborough Marshes
76
75
74
73
67
68
69
70
71
72
73

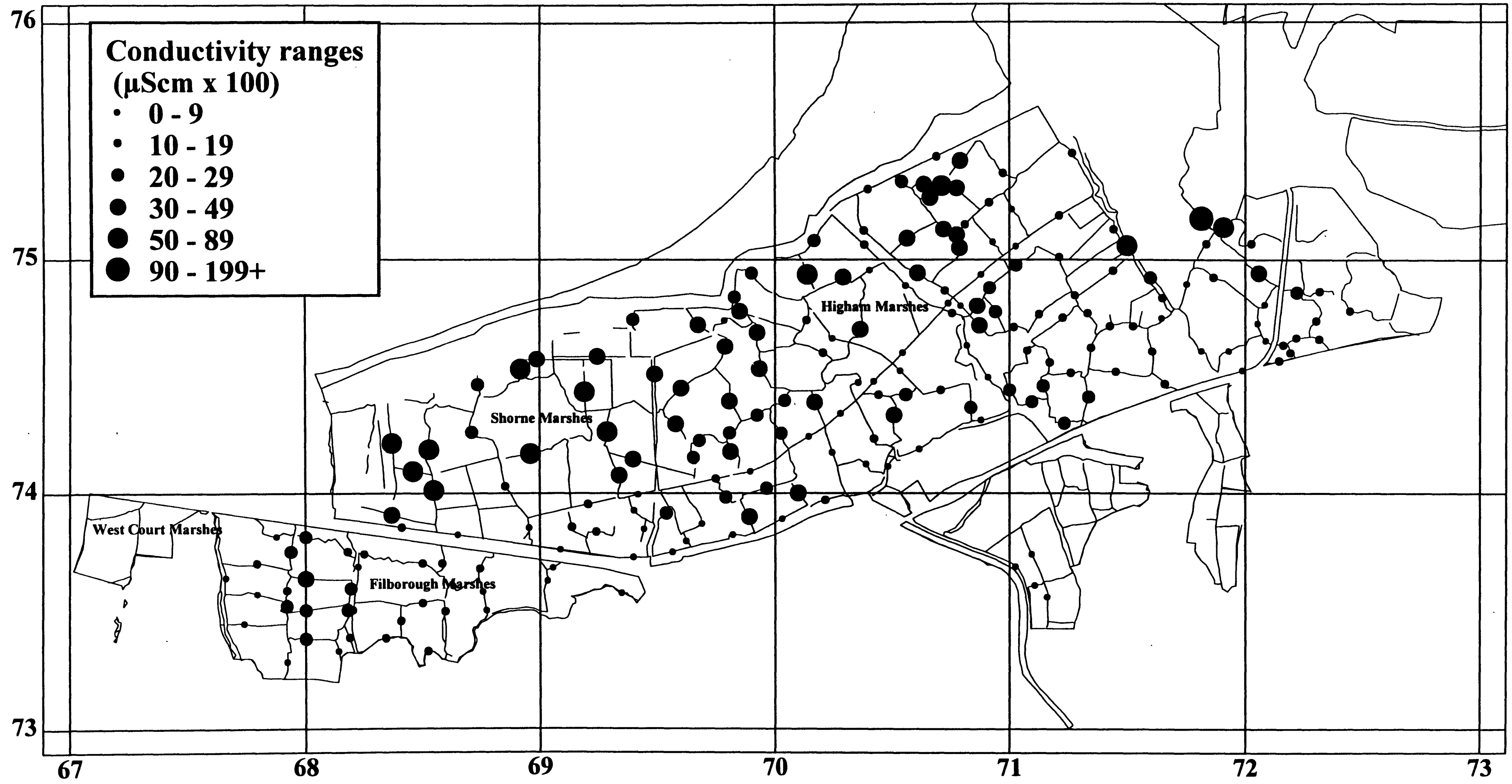
Ditch choked



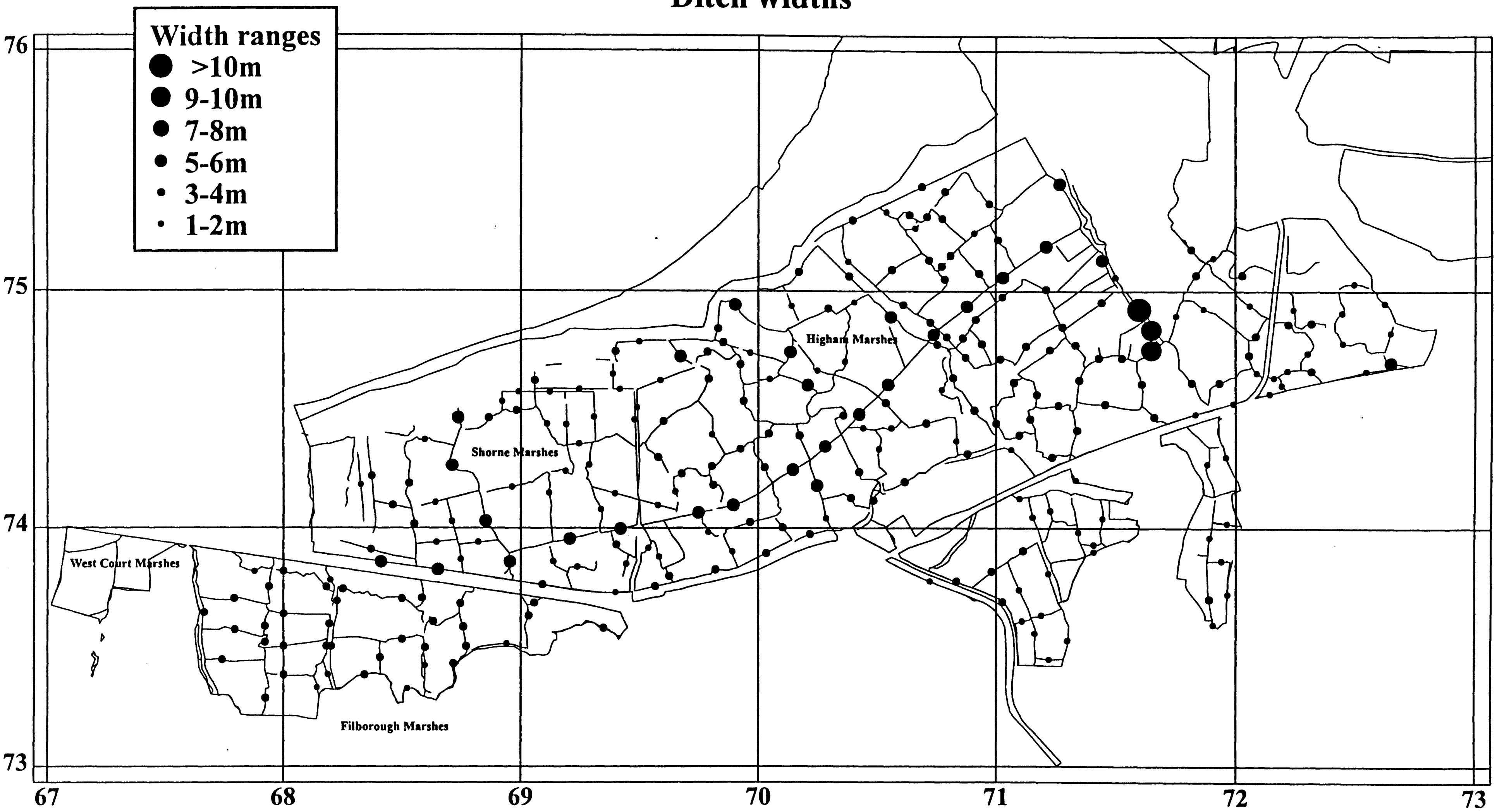
Ditch dry


● Dry ditch
• Near dry
Higham Marshes
Shorne Marshes
West Court Marshes
Filborough Marshes
76
75
74
73
67
68
69
70
71
72
73

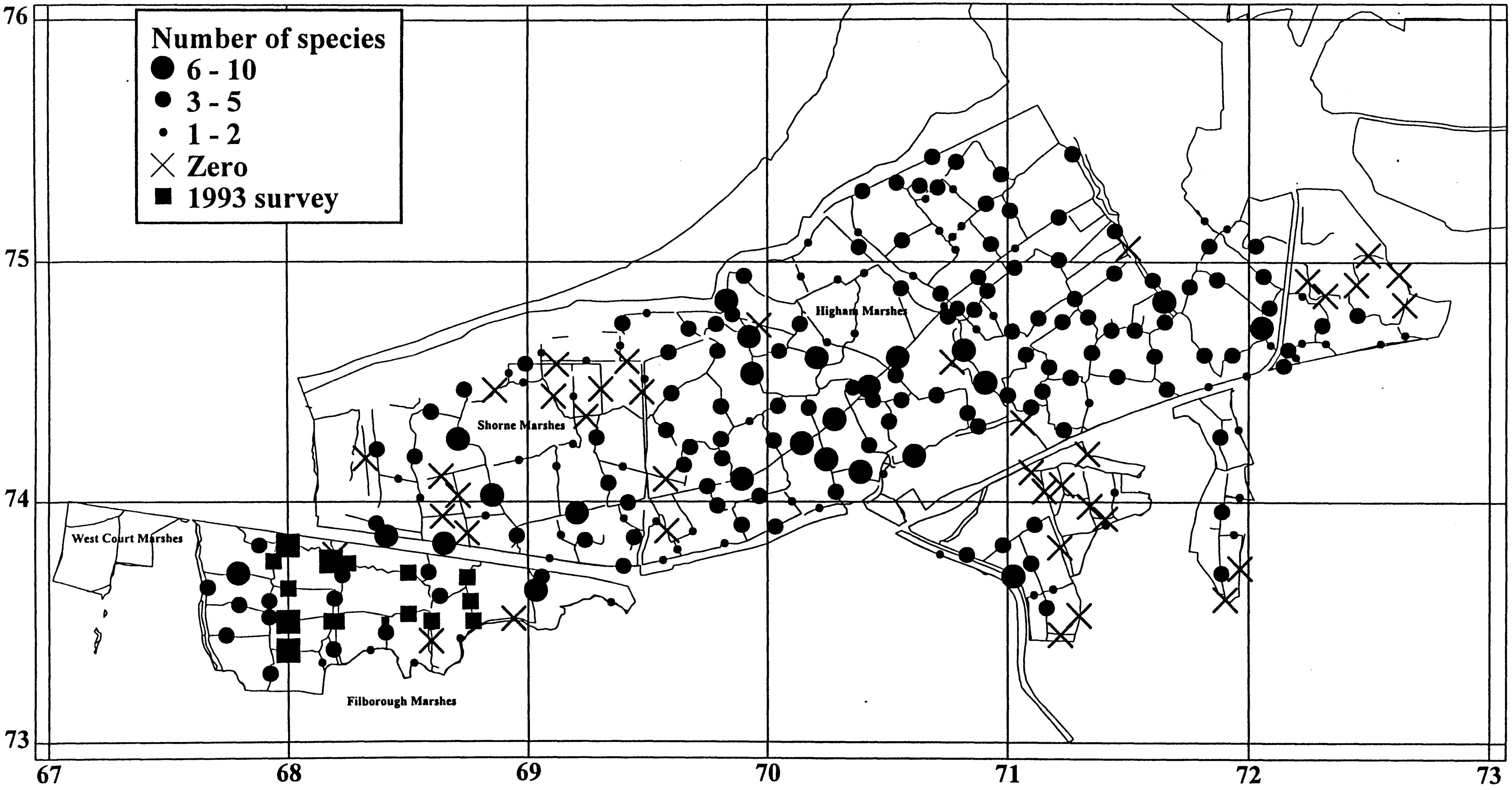
Conductivity values



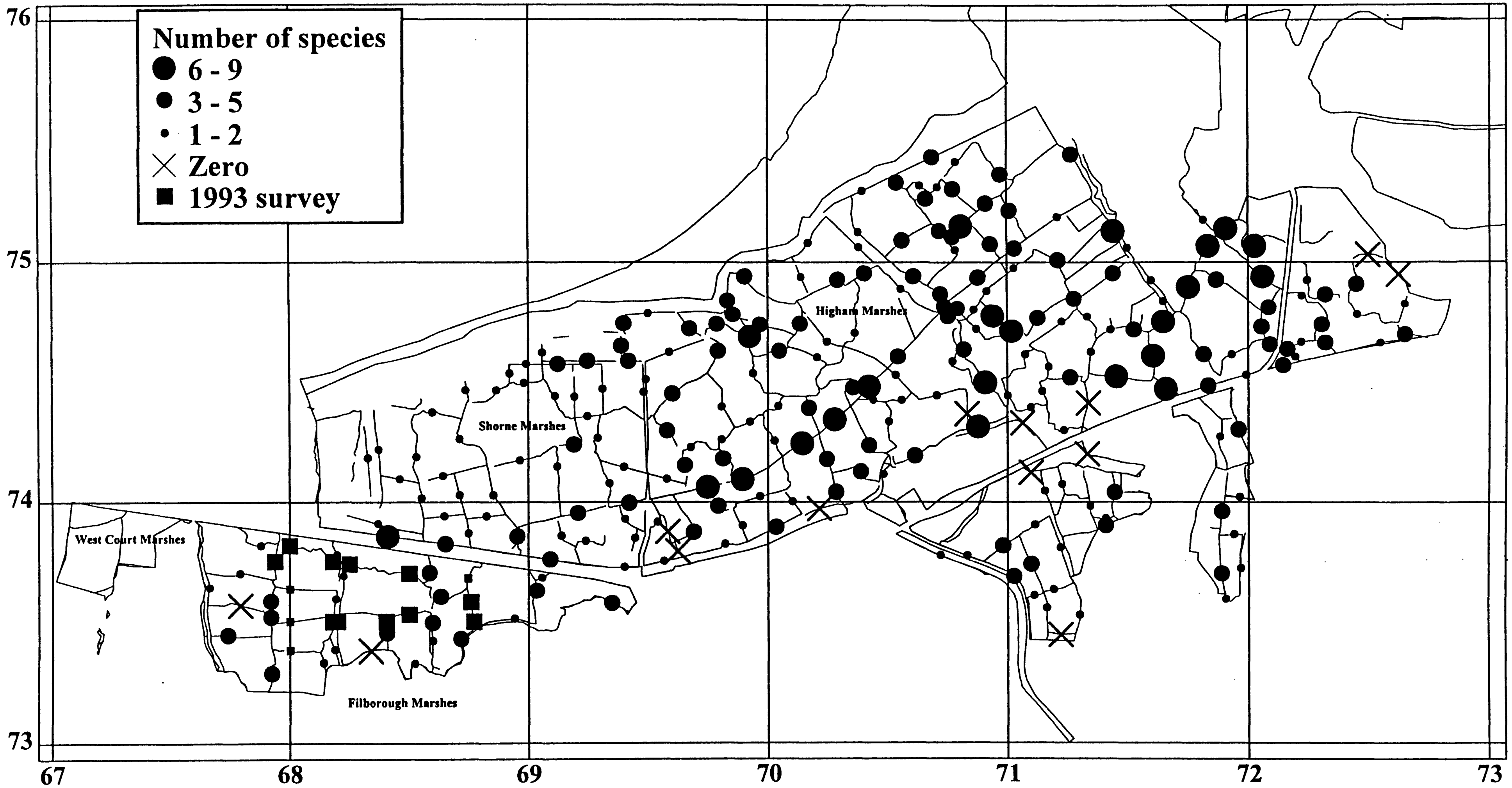
Ditch widths



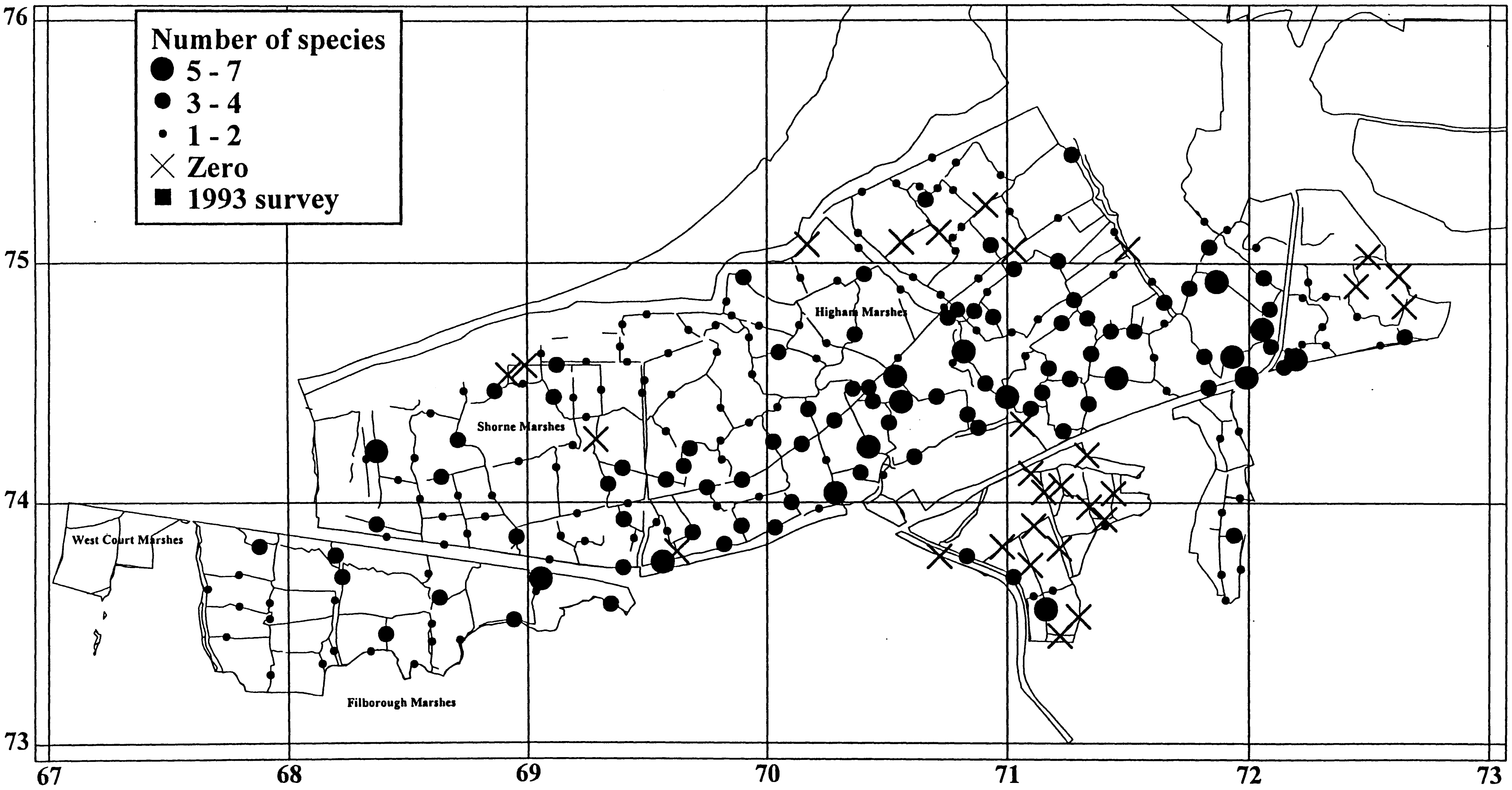
Number of aquatic species



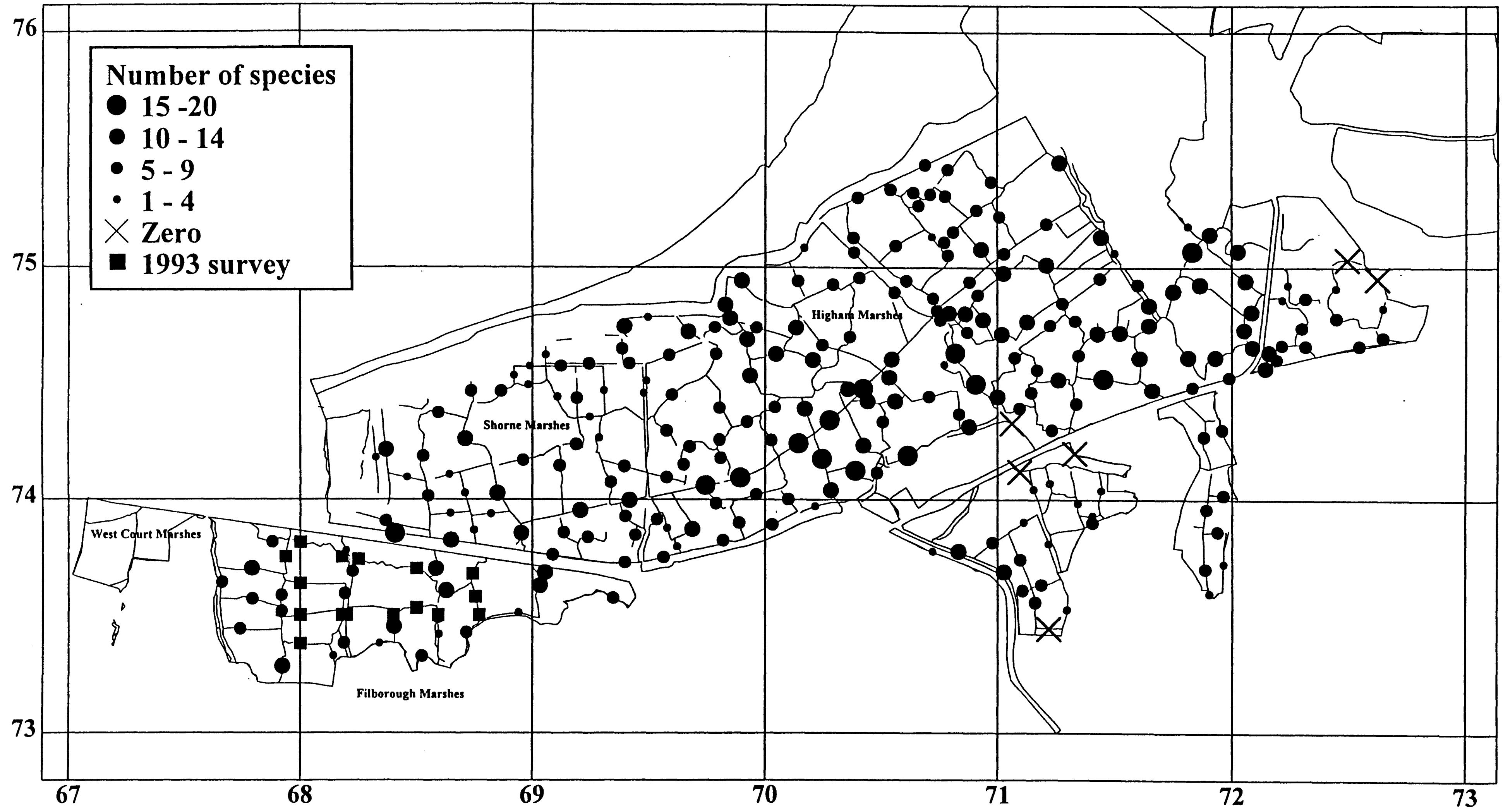
Number of emergent species



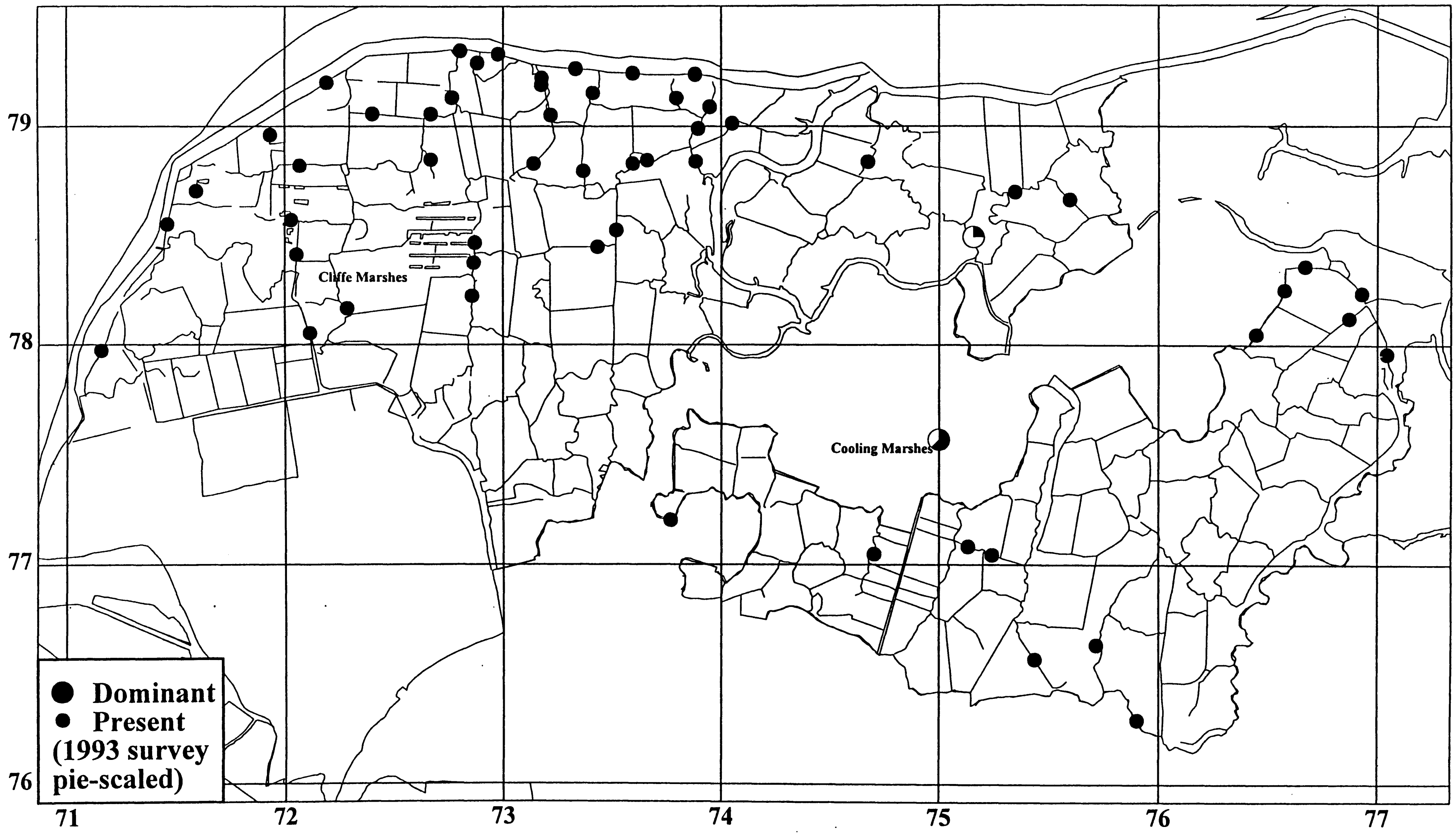
Number of bank species



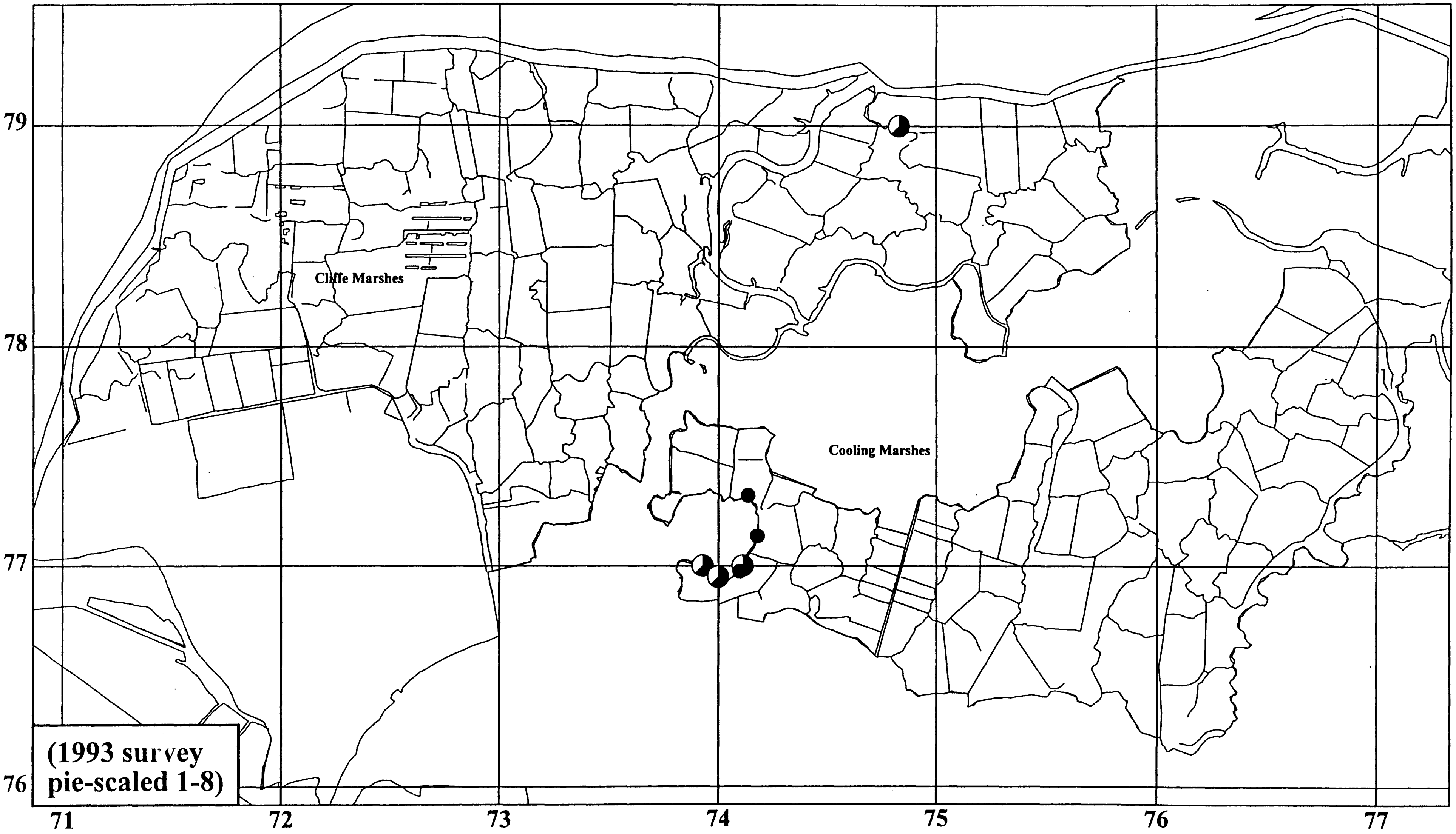
Total number of species



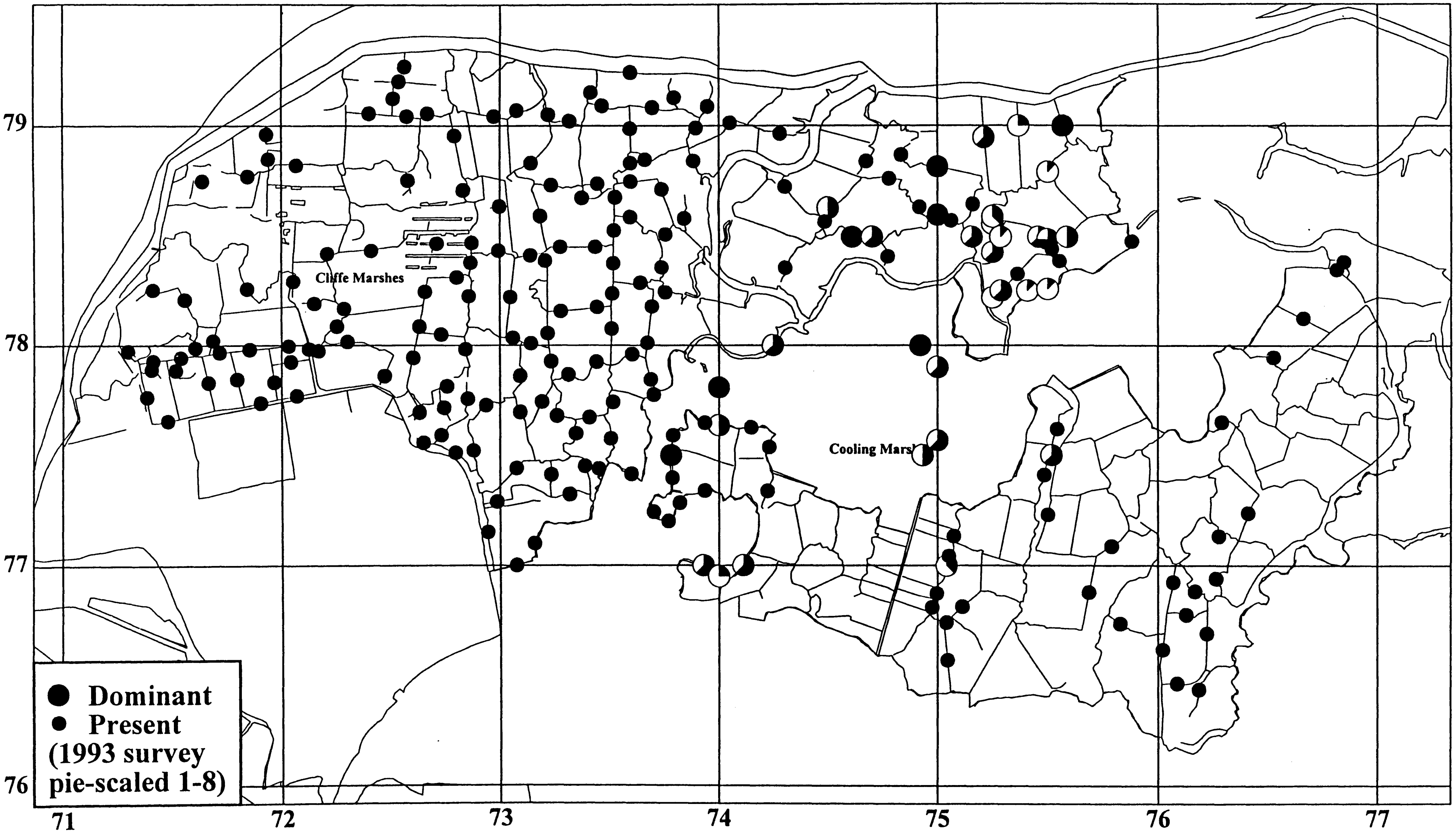
Azolla filiculoides



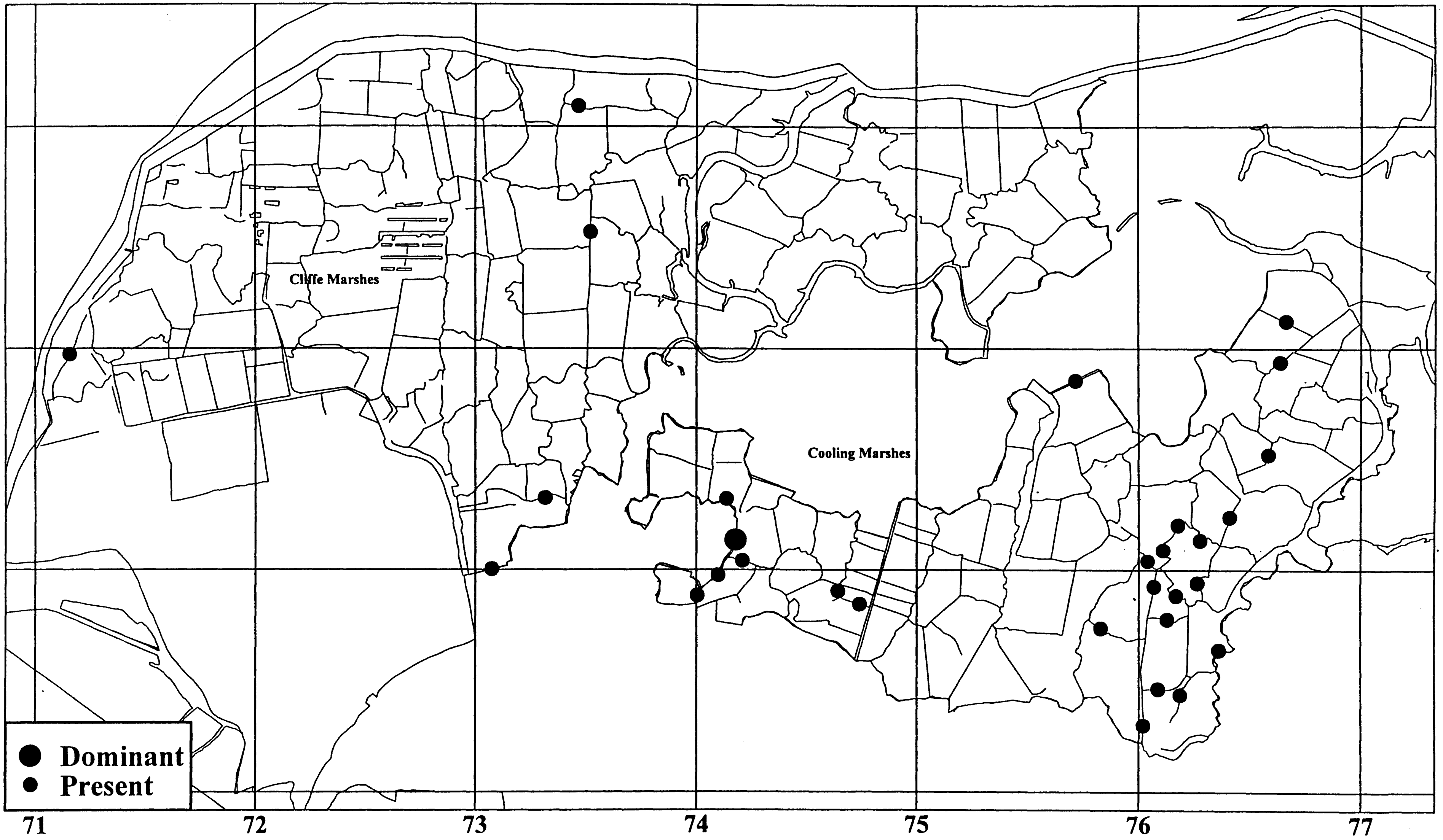
Ceratophyllum demersum



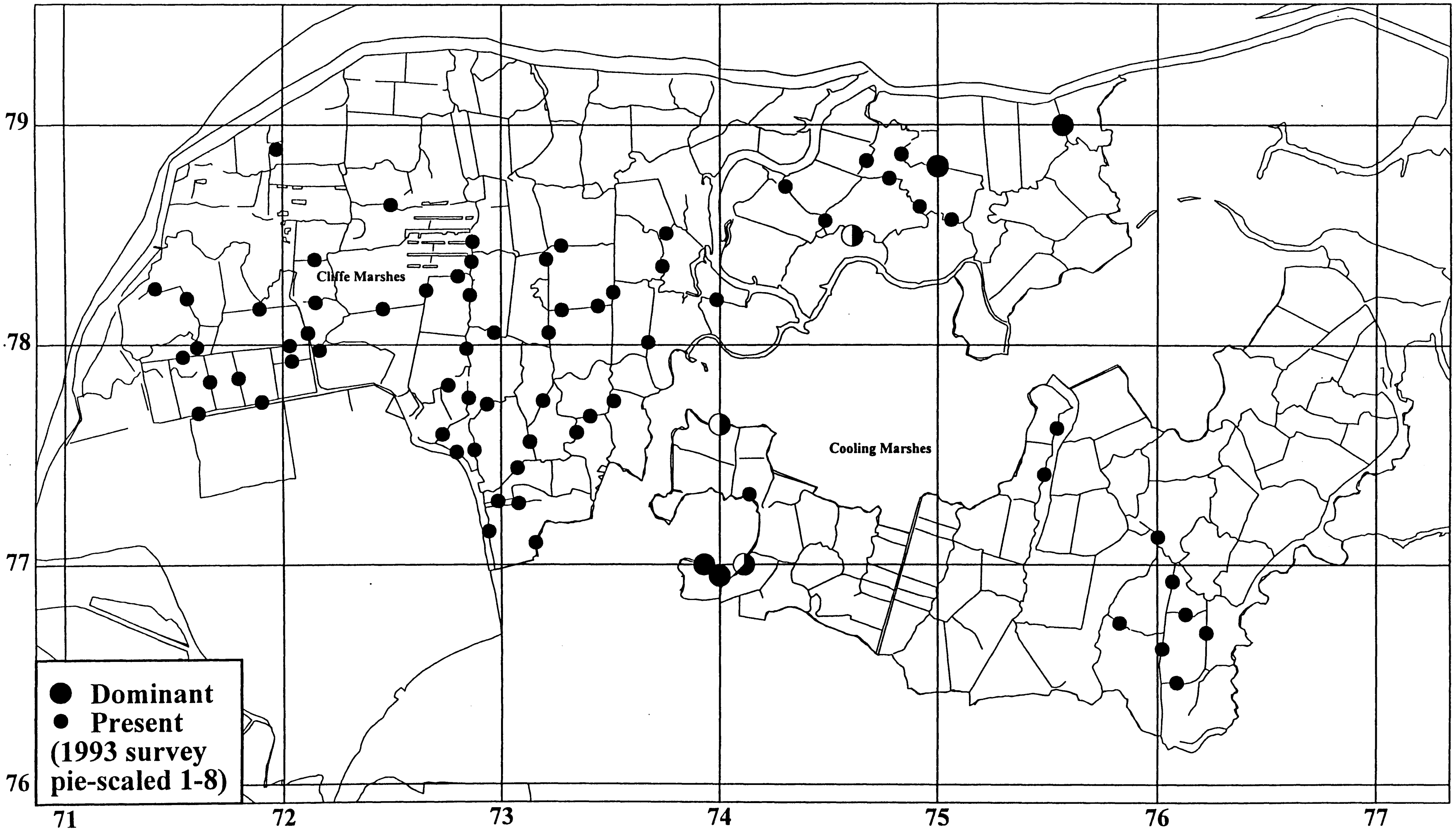
Ceratophyllum submersum



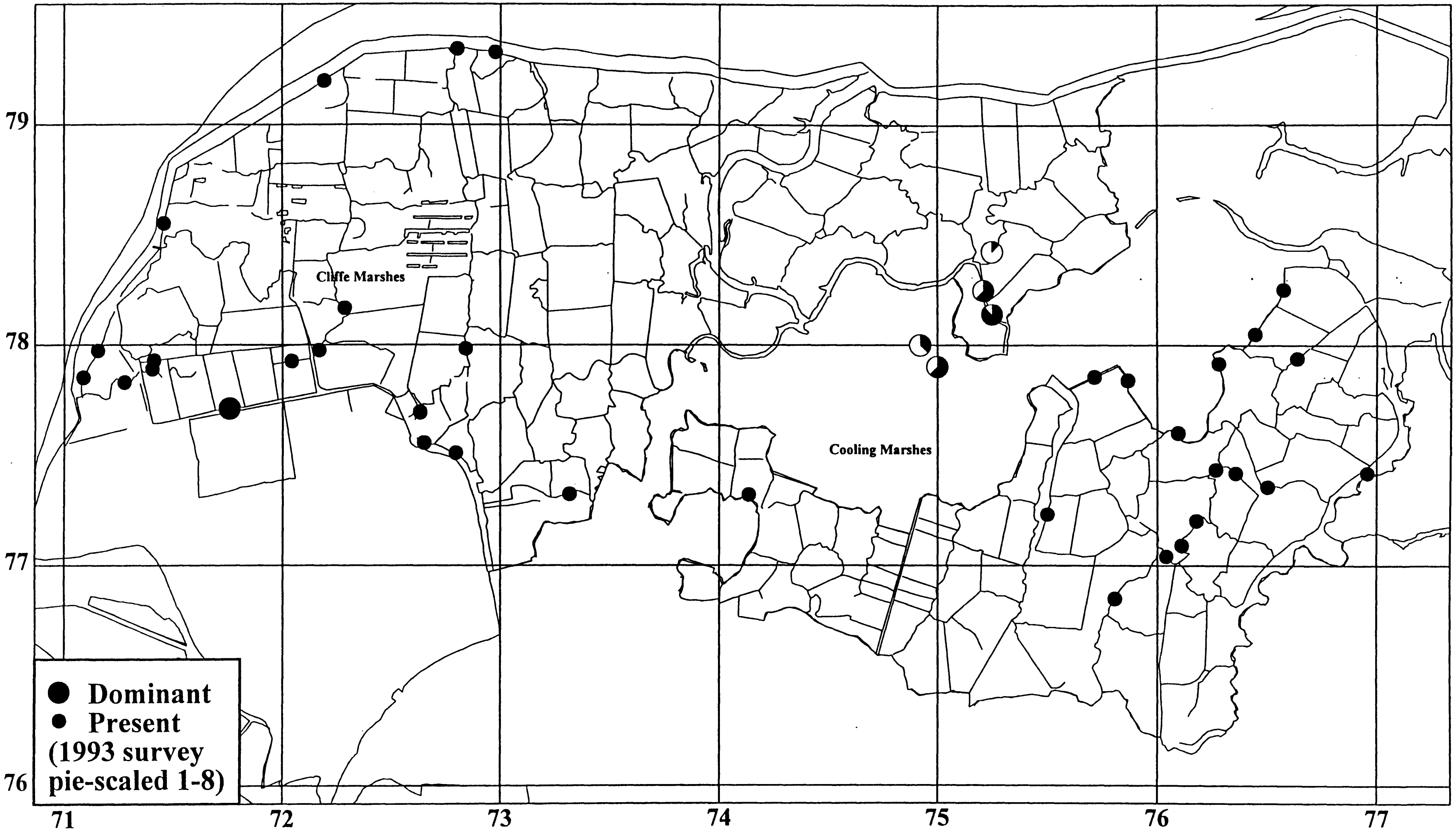
Enteromorpha sp



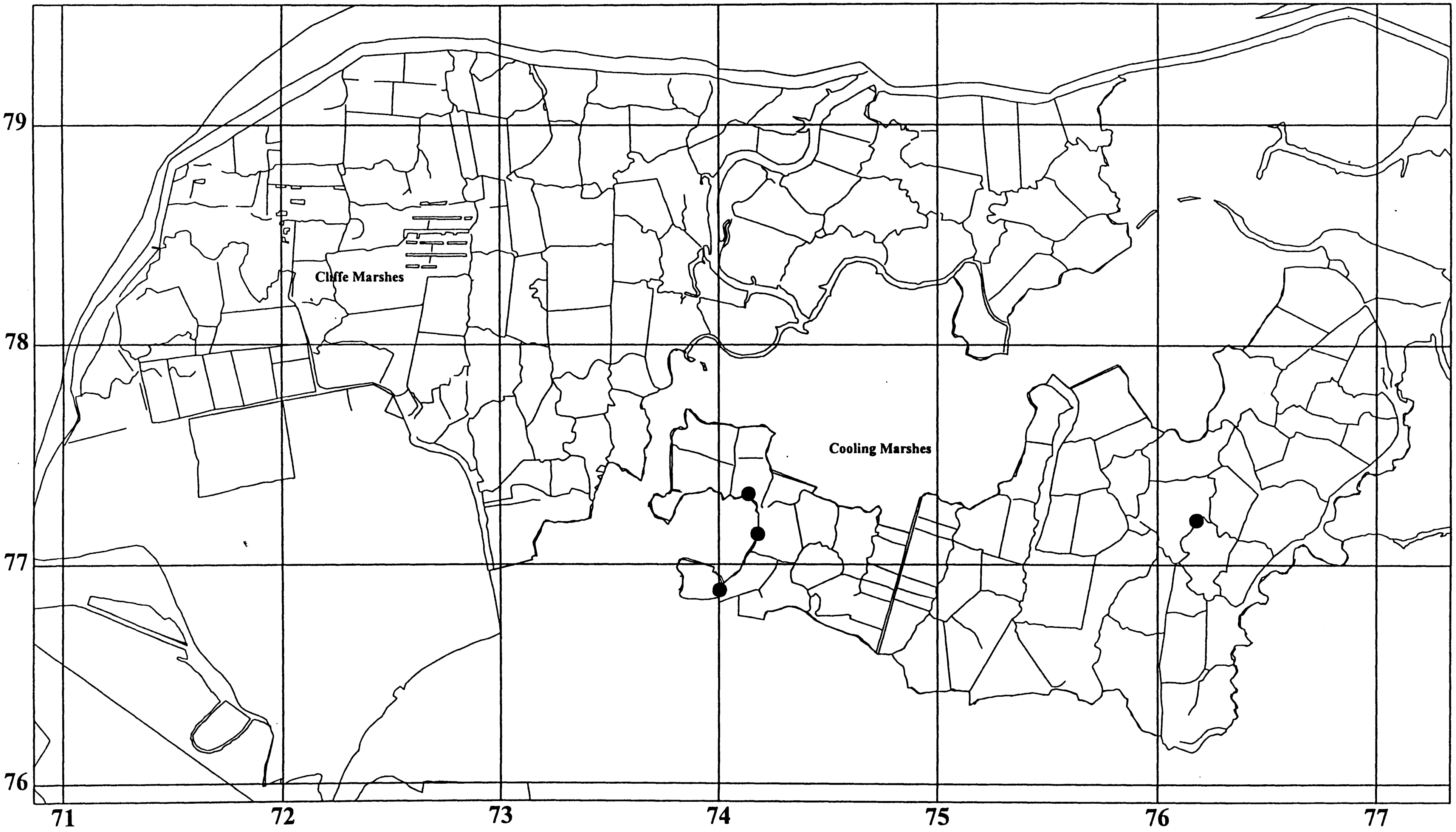
Lemna gibba


79
78
77
76
71
72
73
74
75
76
77
Cliffe Marshes
Cooling Marshes
● Dominant
● Present
(1993 survey
pie-scaled 1-8)

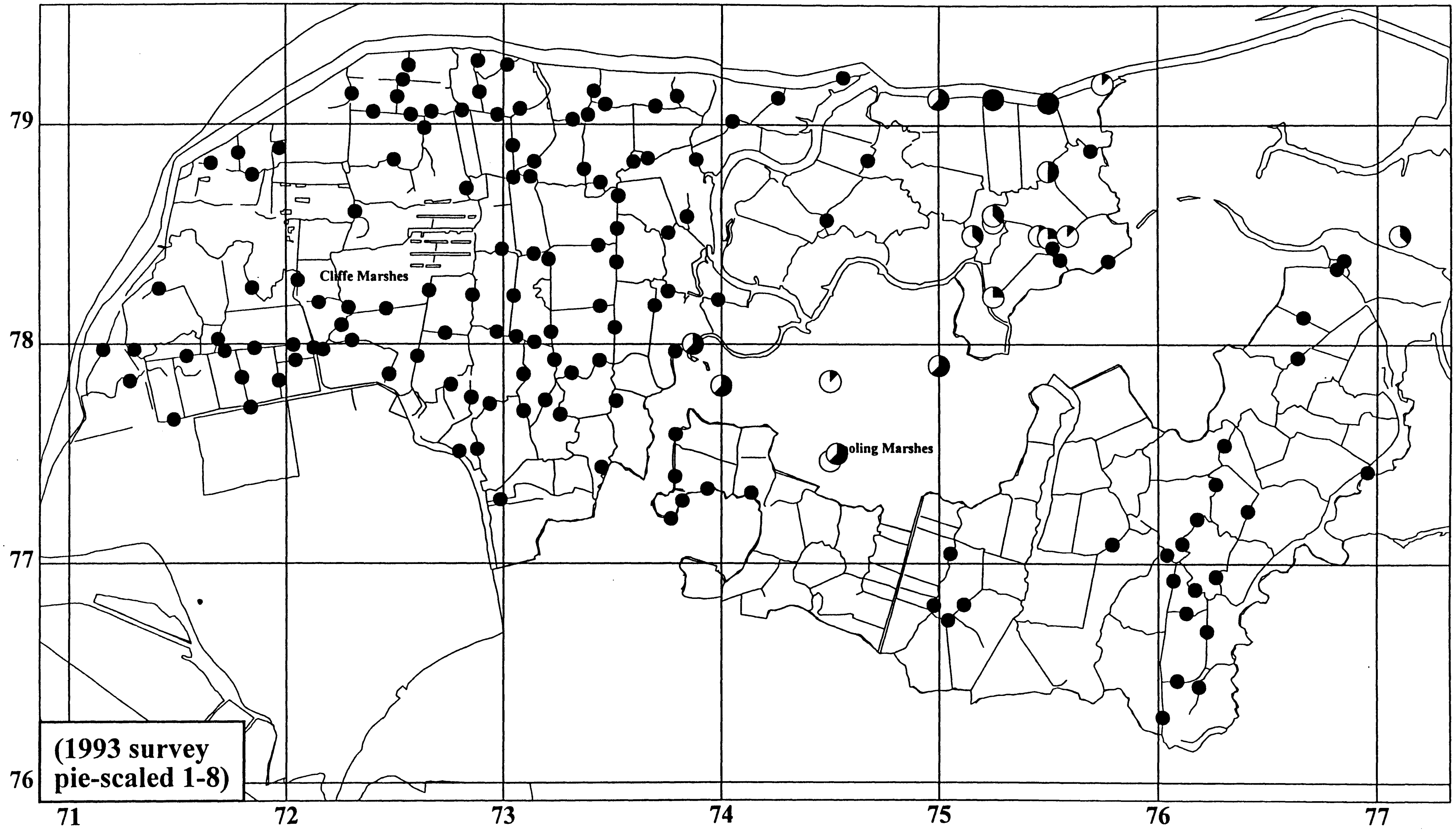
Myriophyllum spicatum



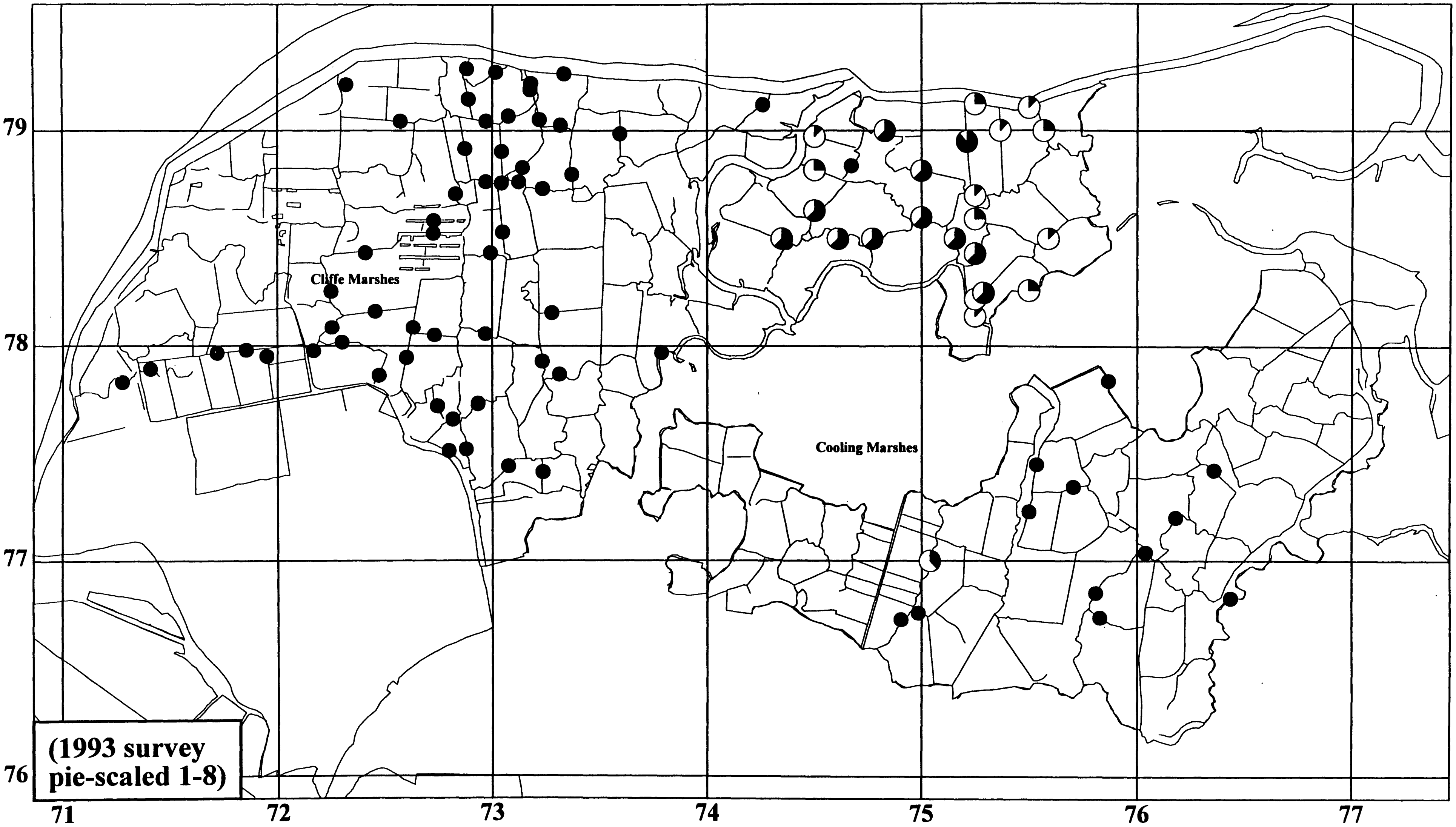
Potamogeton crispus



Potamogeton pectinatus

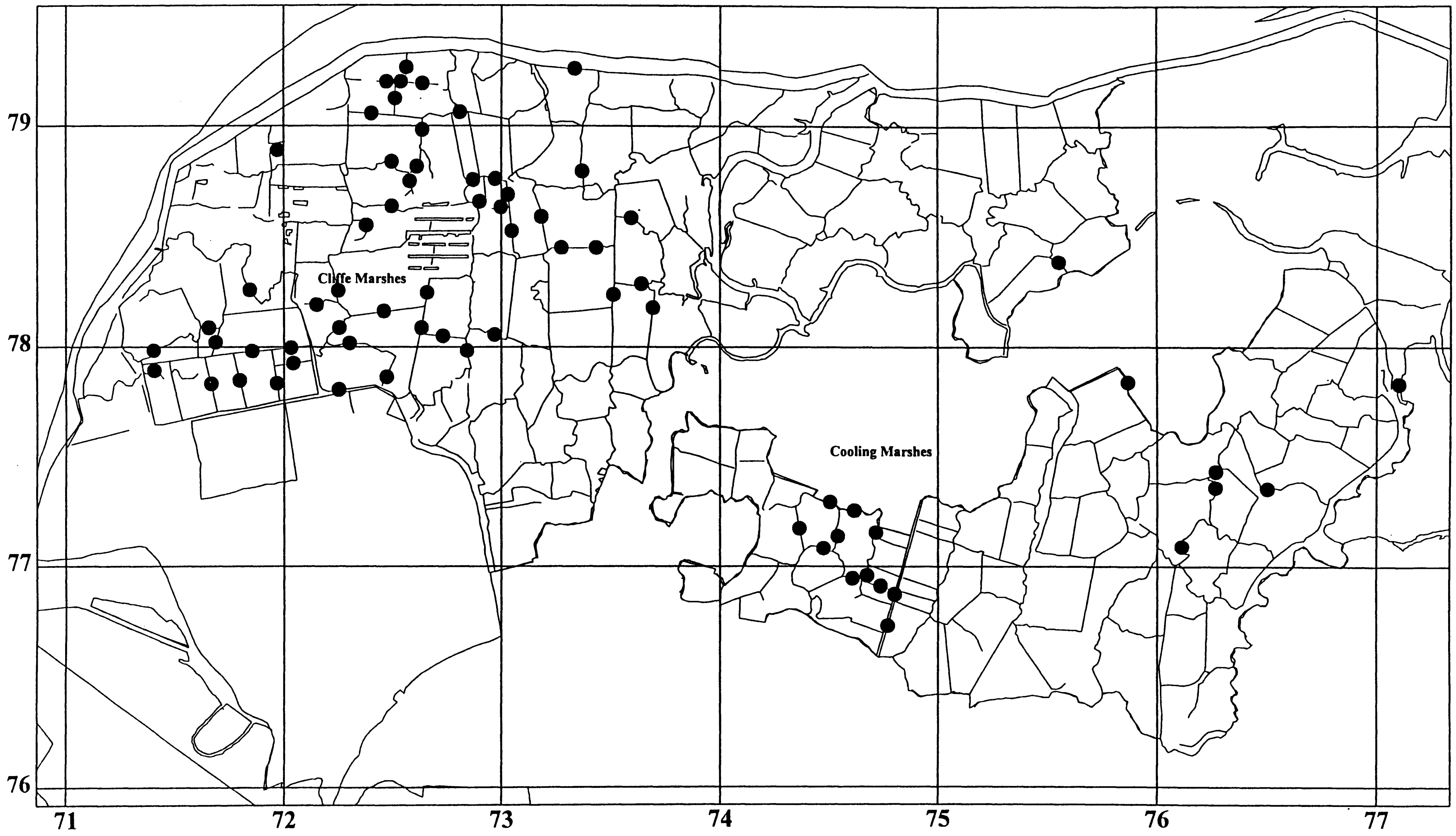


Ranunculus baudotii

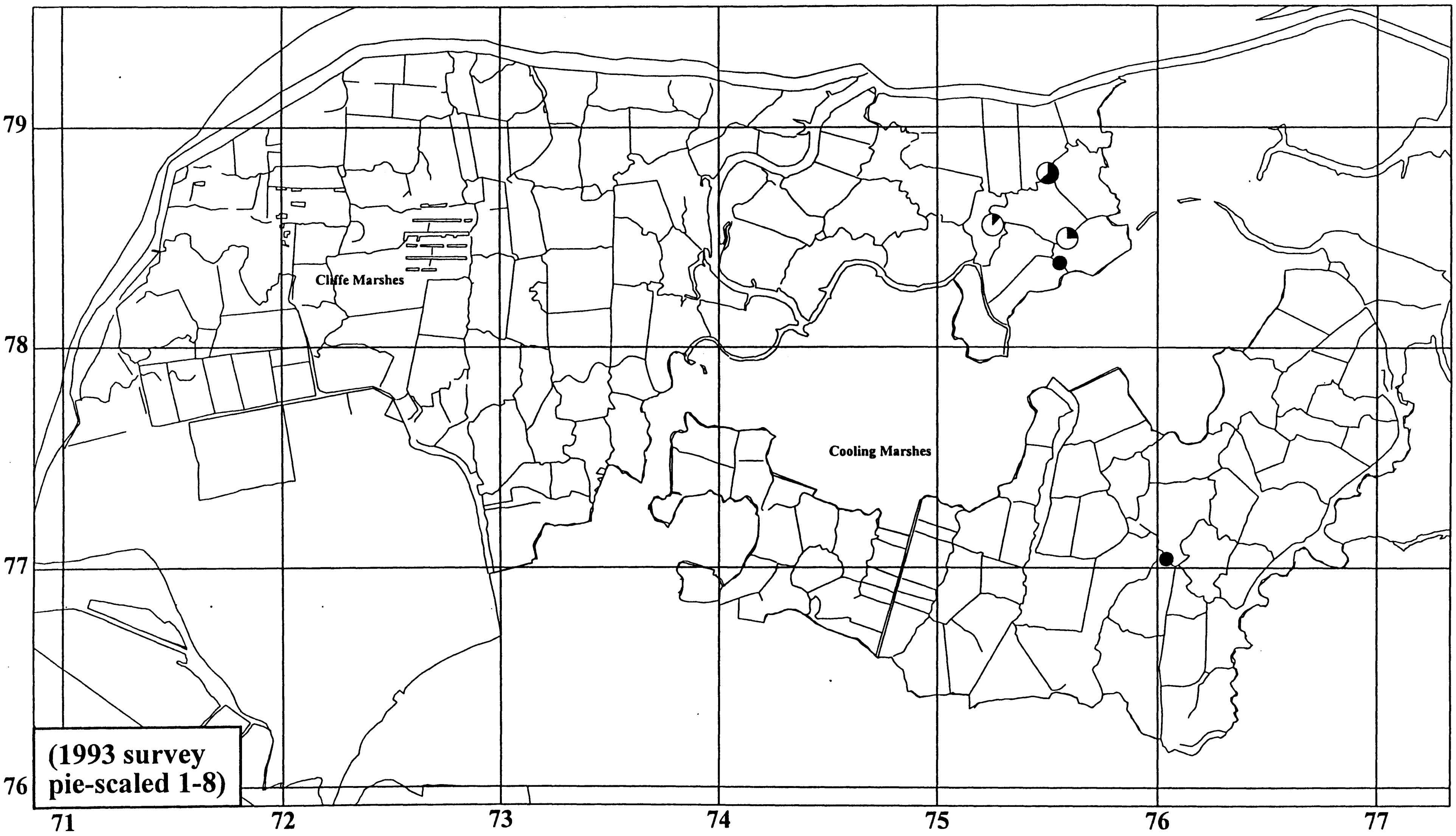


(1993 survey
pie-scaled 1-8)

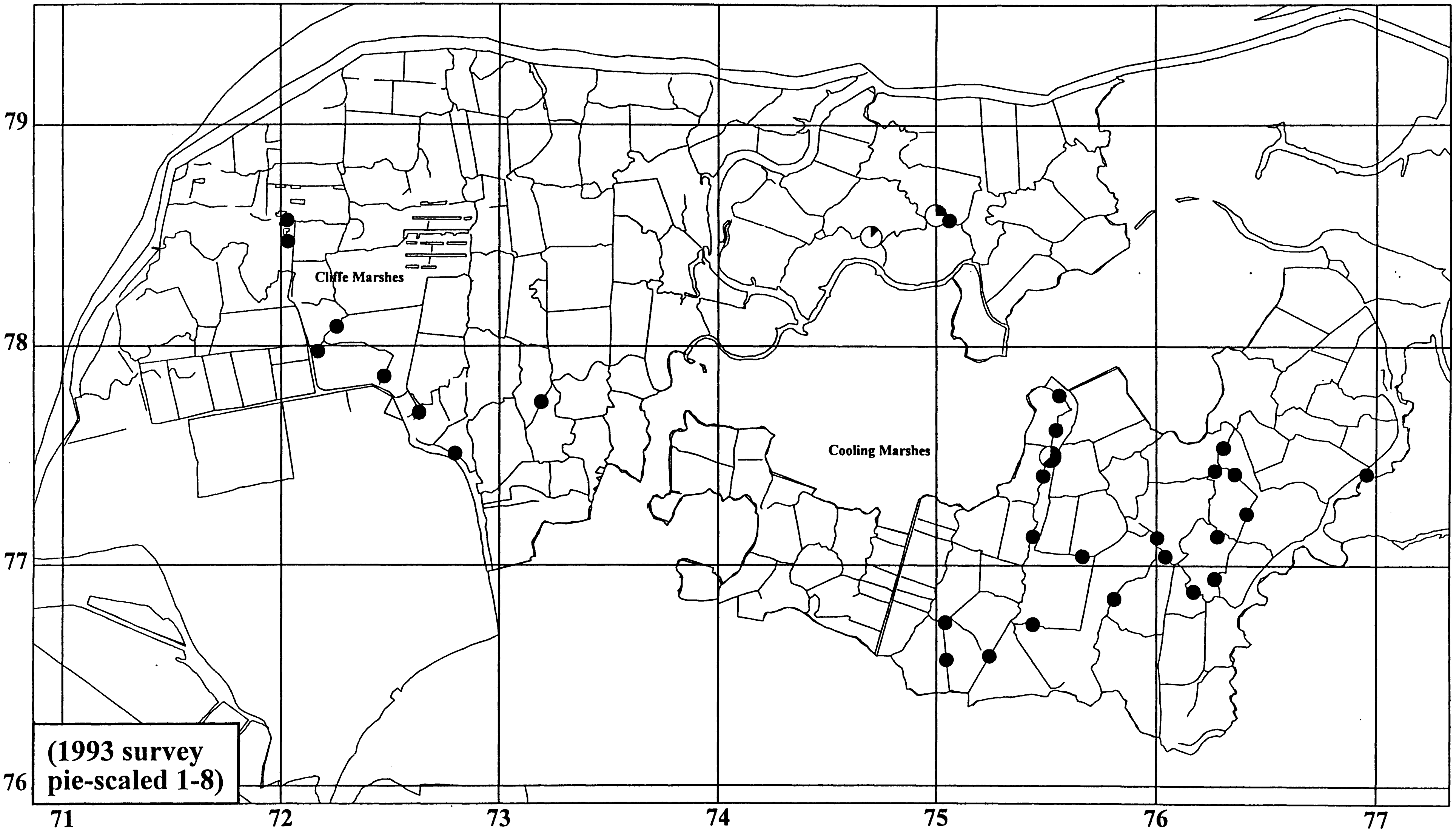
Ranunculus trichophyllus



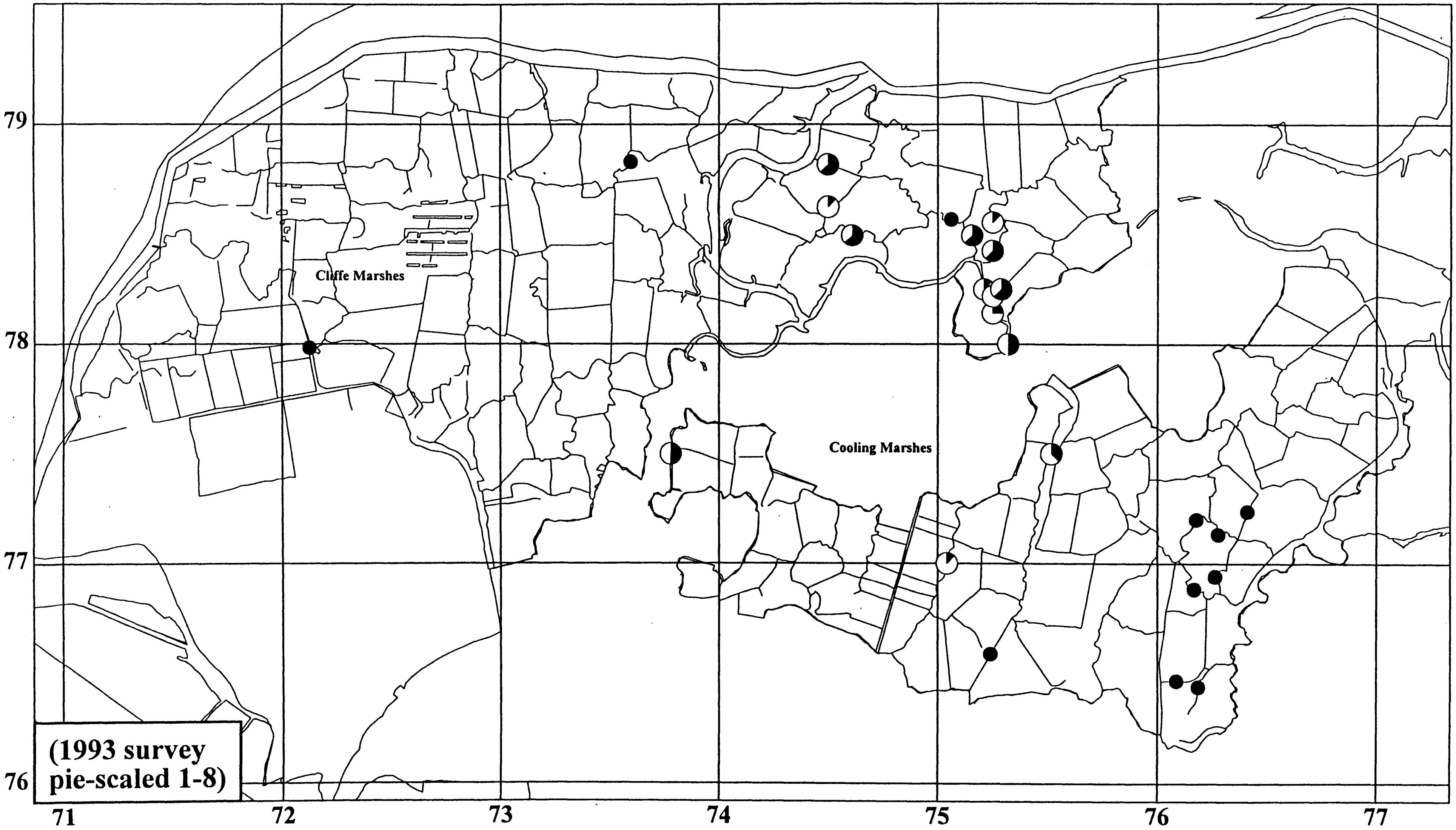
Zannichellia palustris



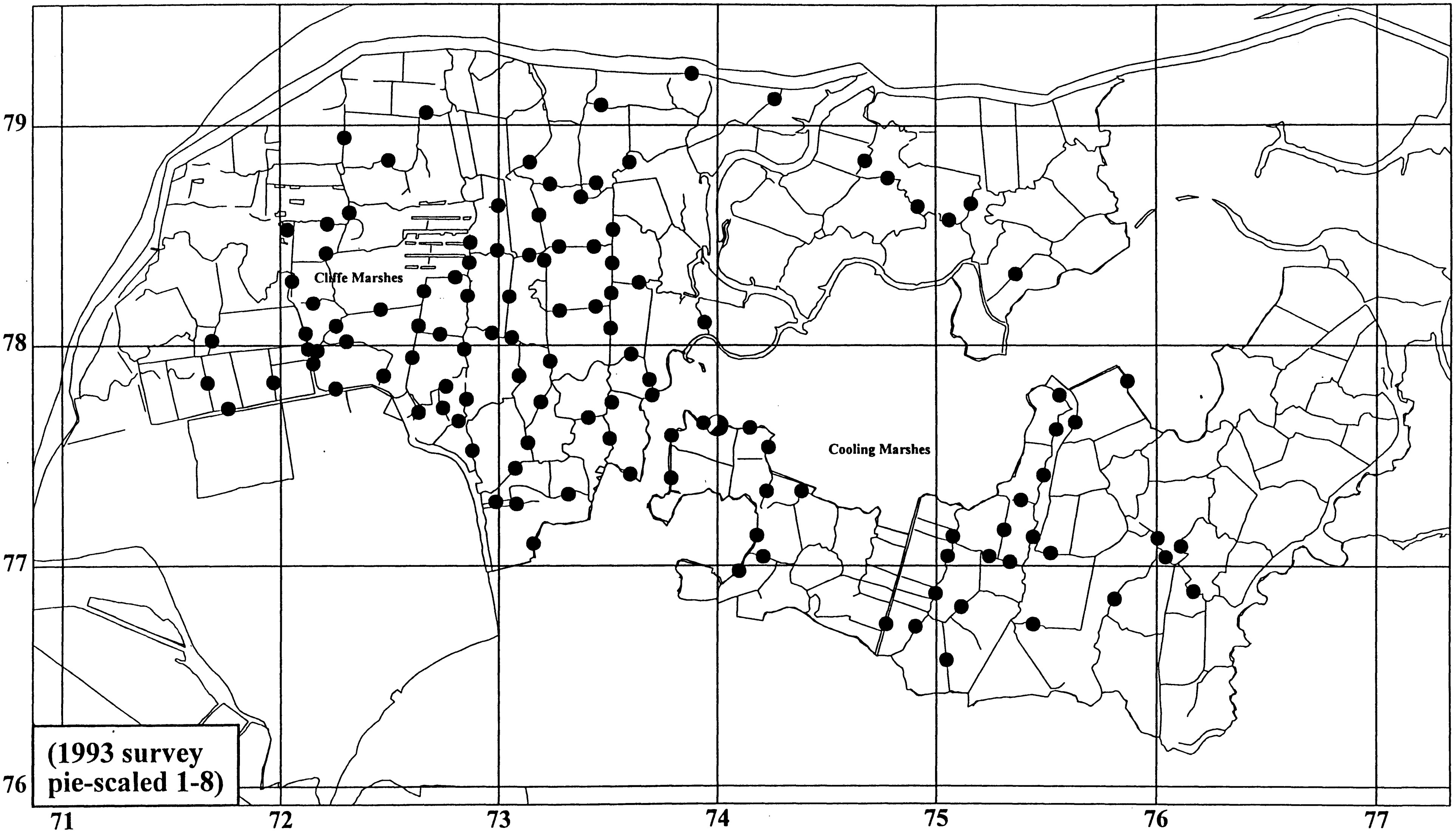
Alisma plantago-aquatica



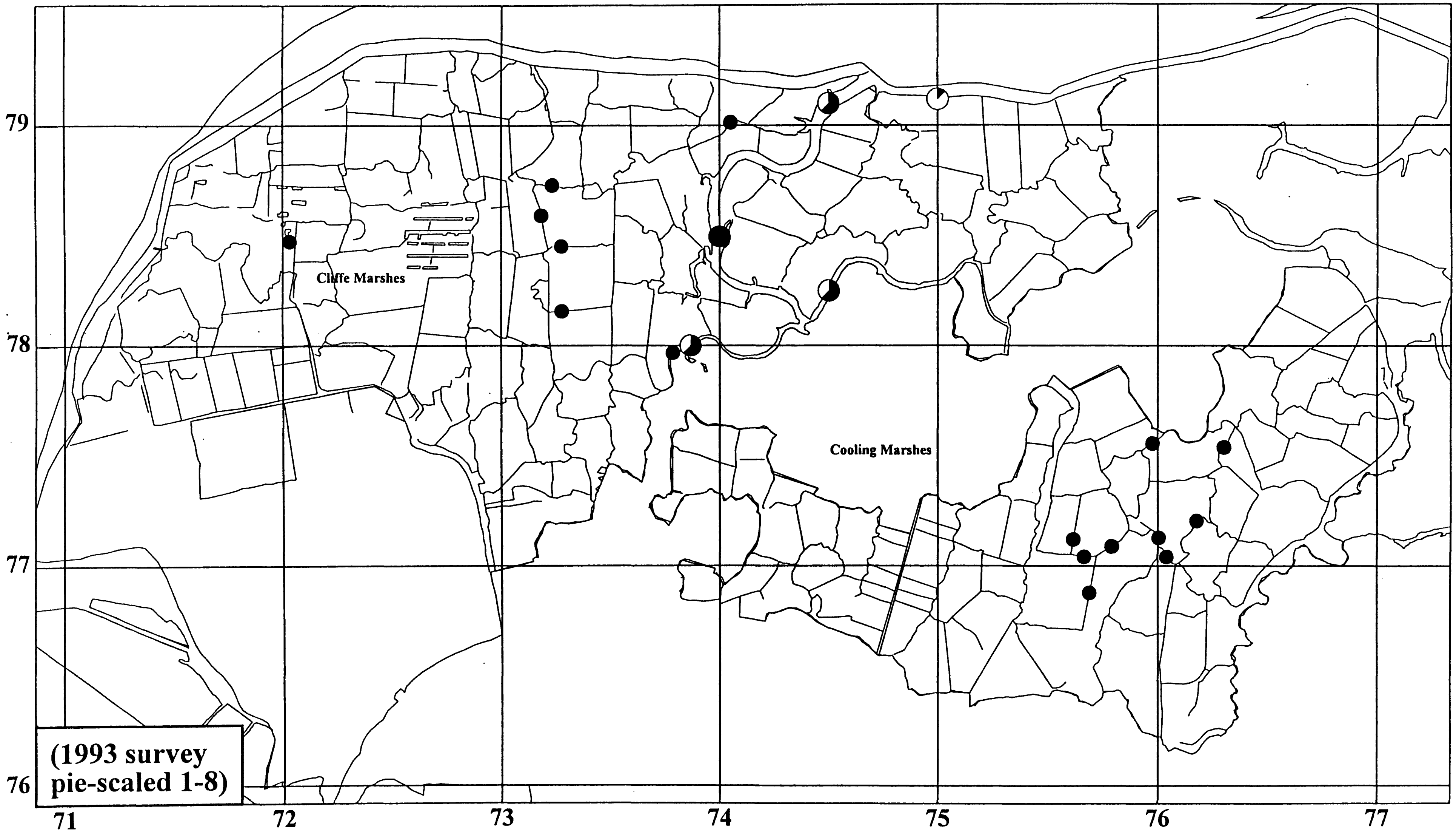
Apium nodiflorum



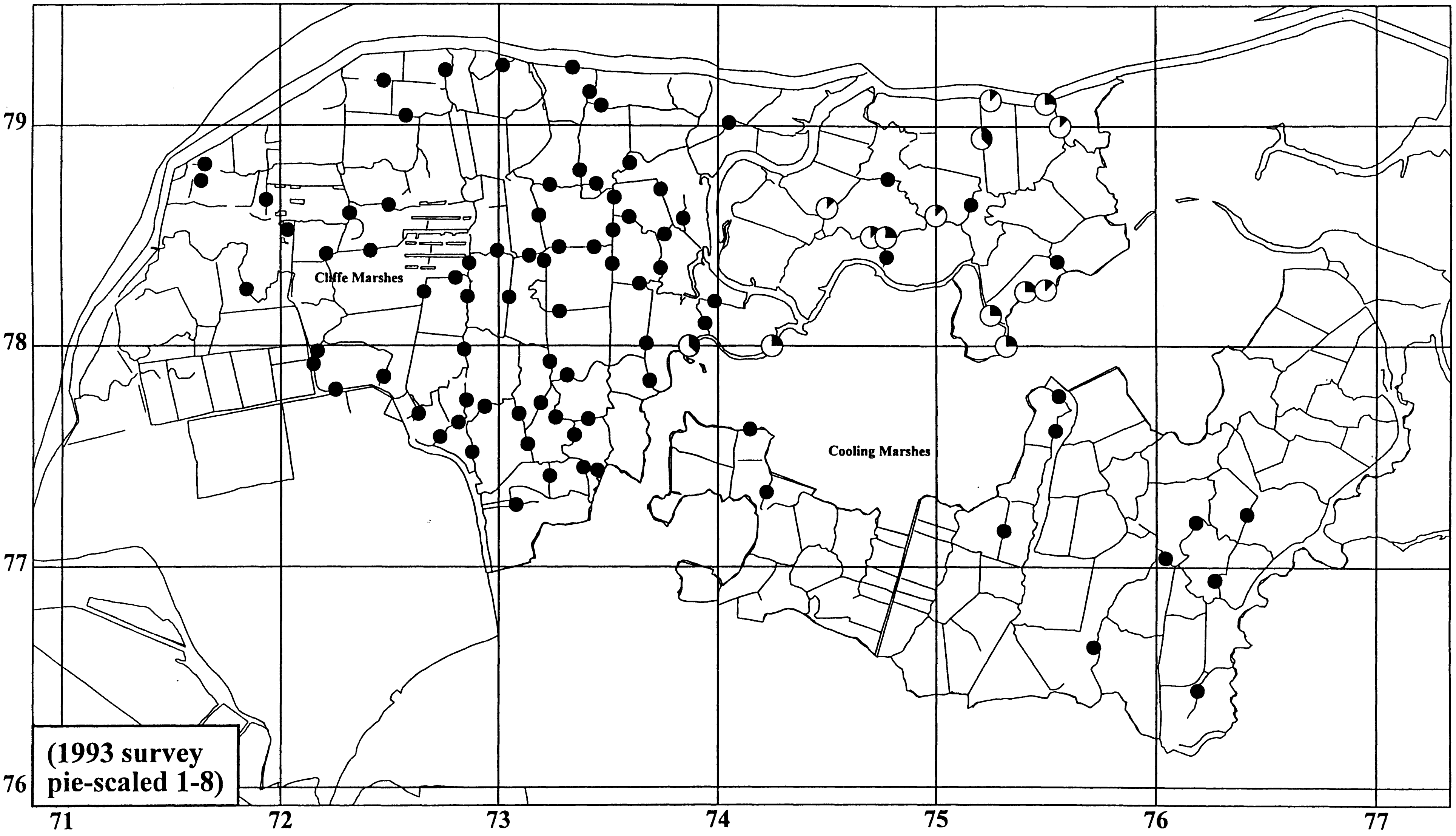
Berula erecta



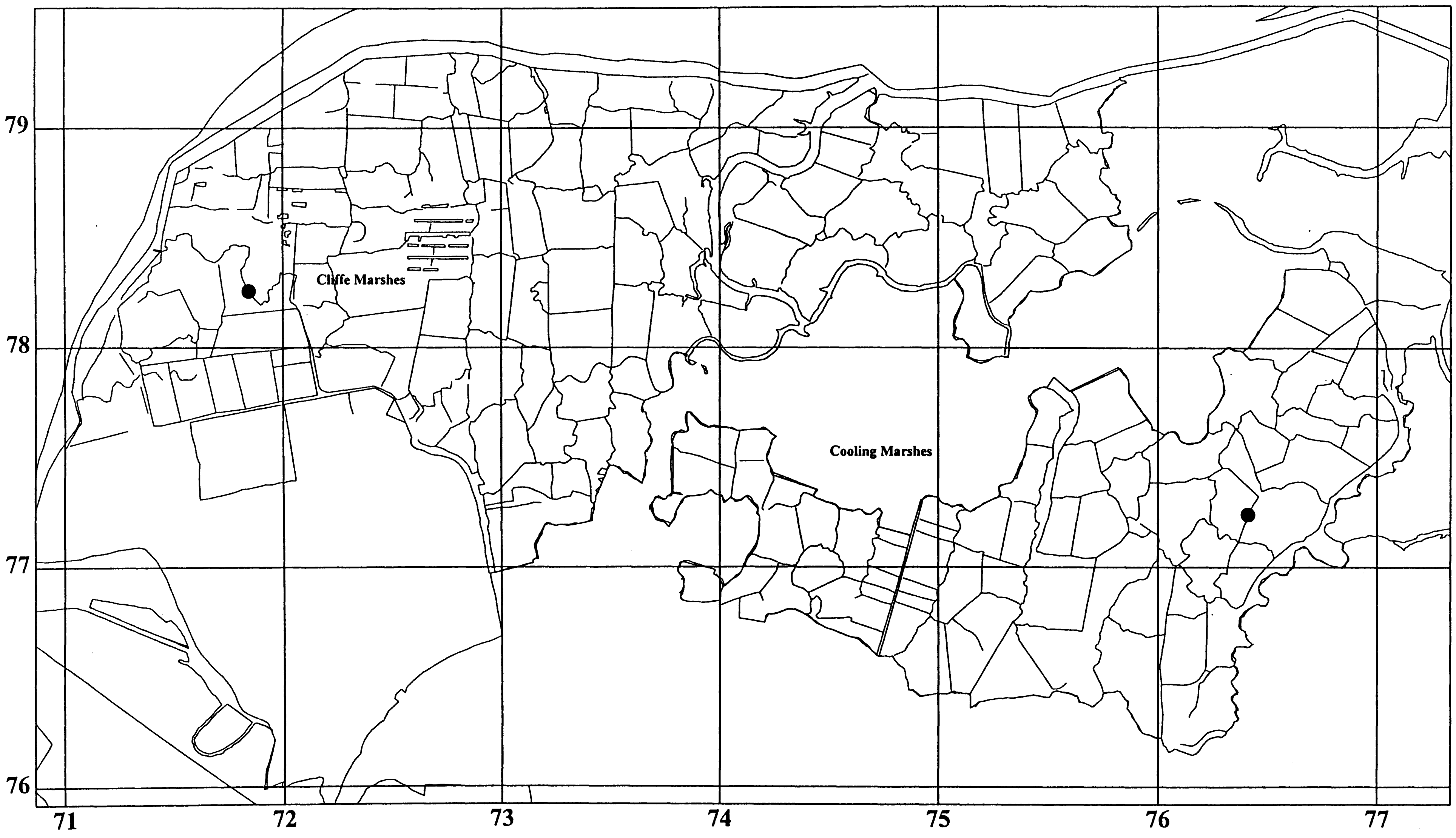
Hippuris vulgaris



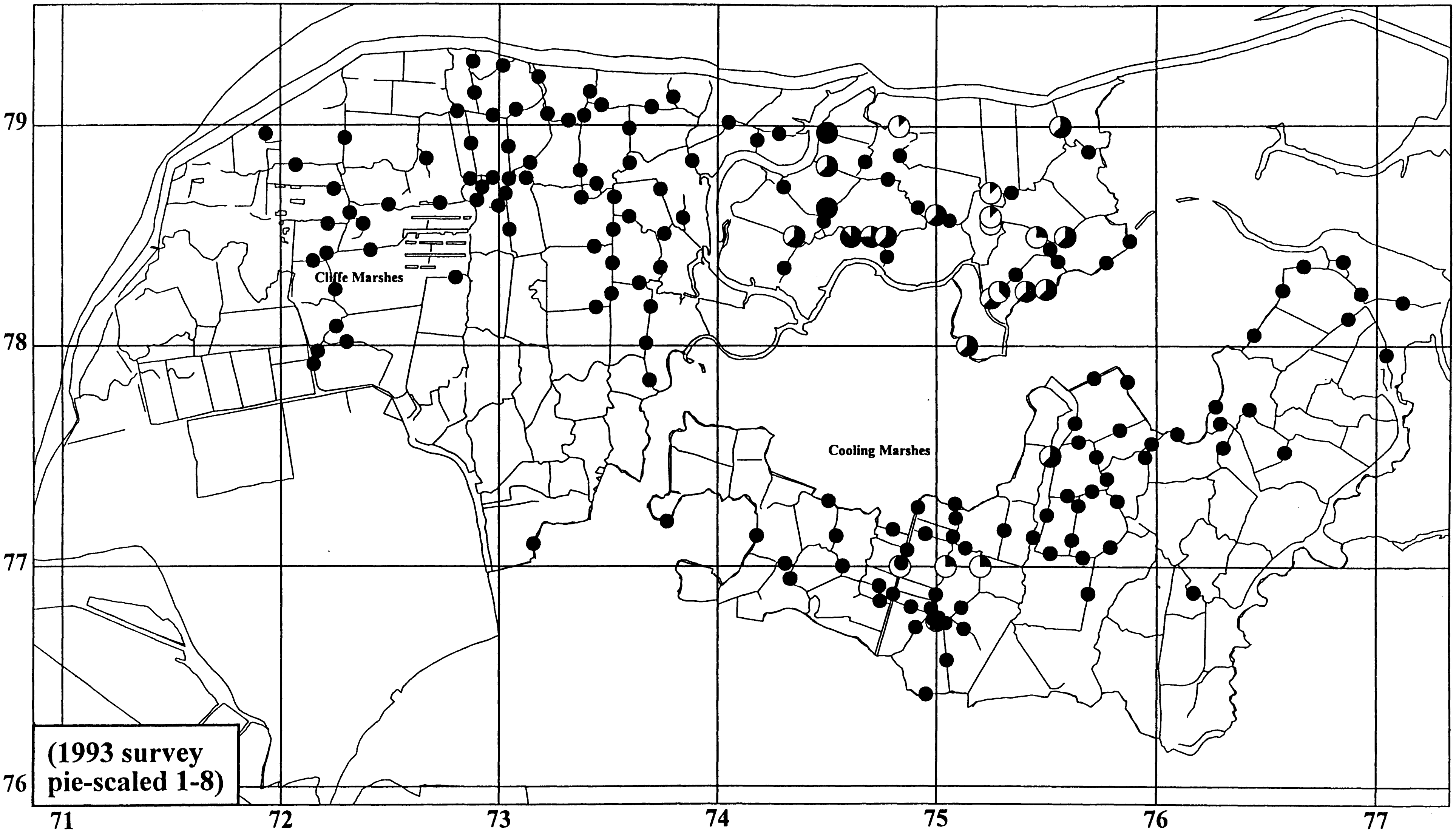
Nasturtium officinale agg



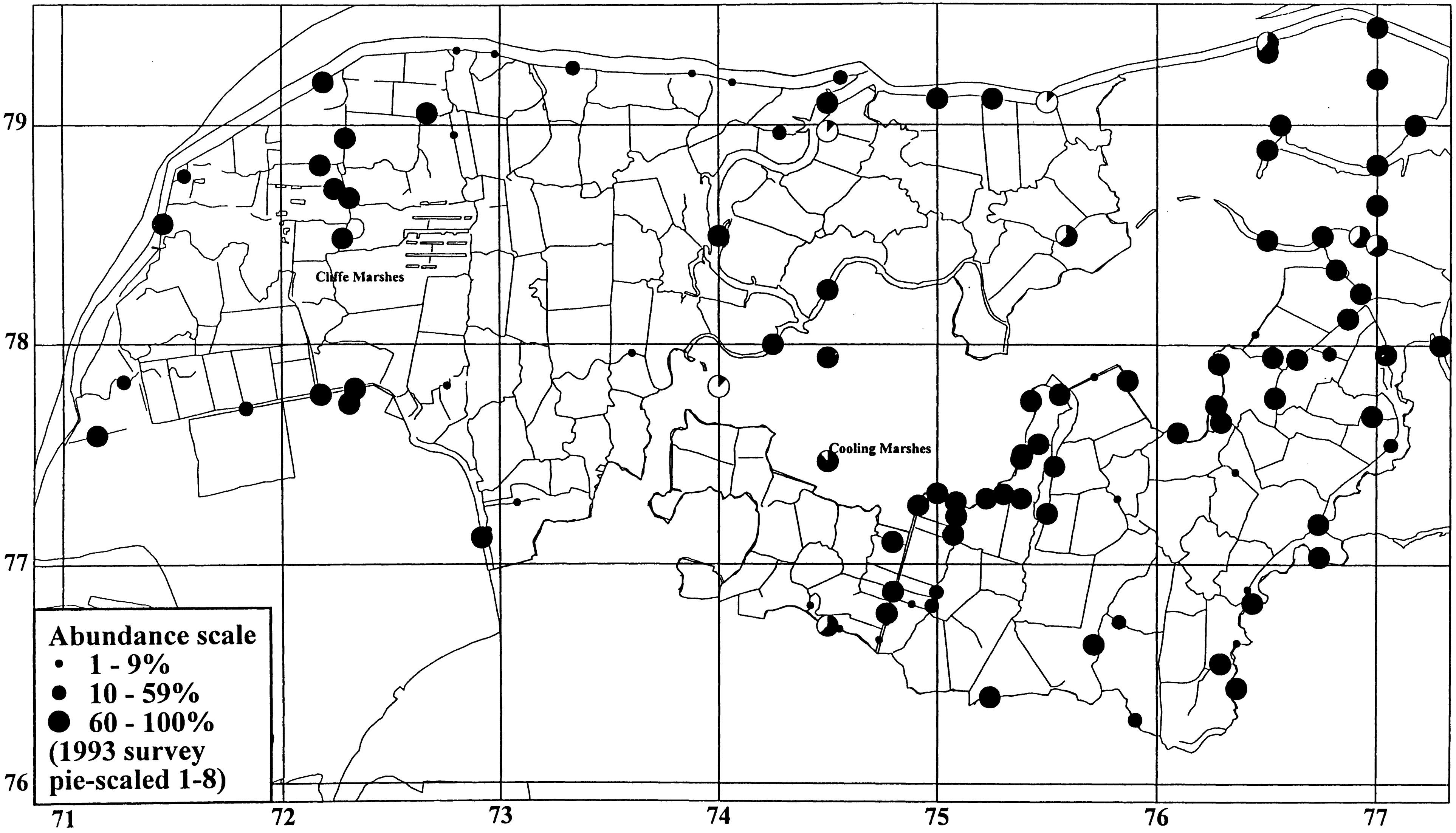
Oenanthe aquatica



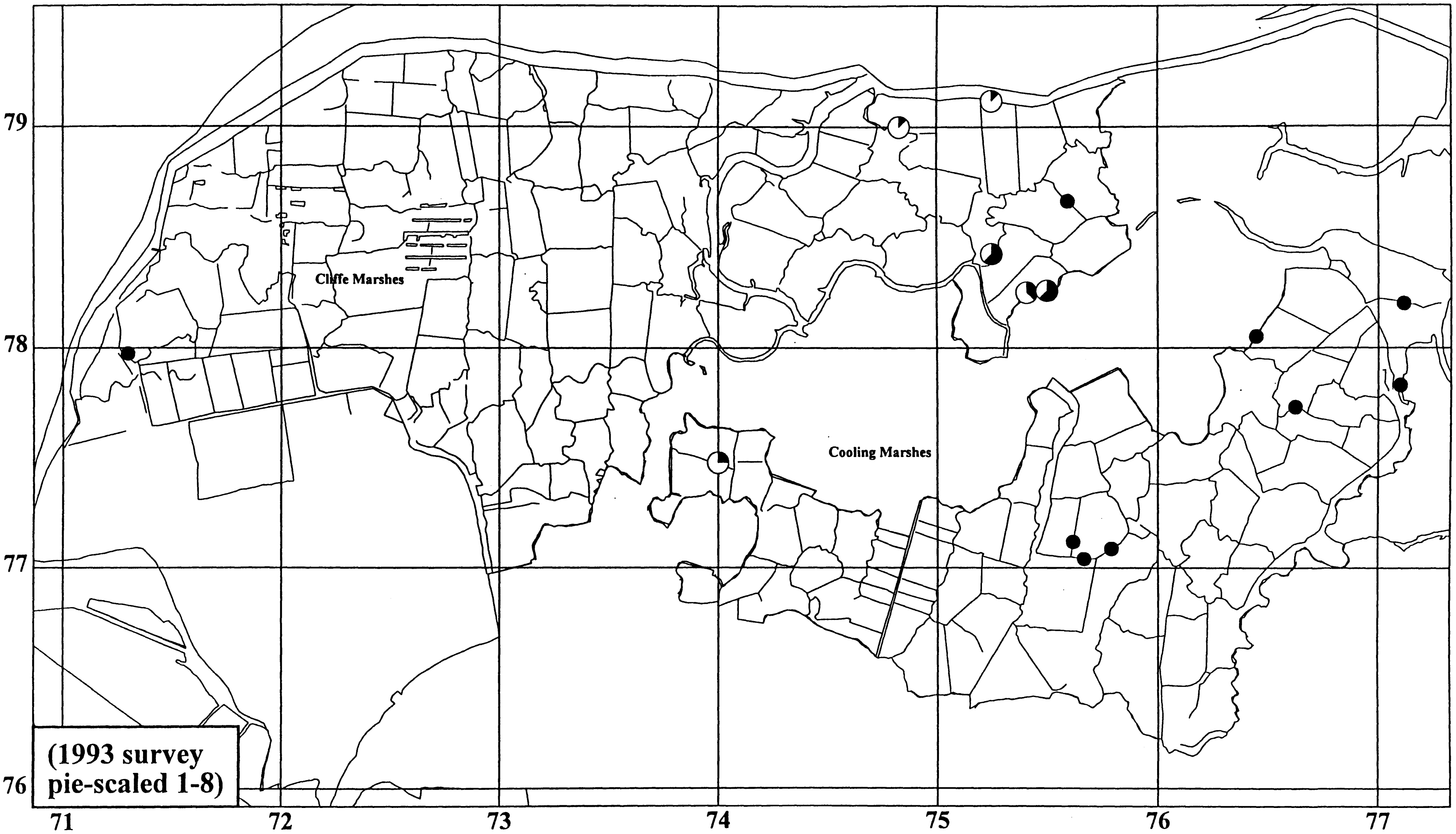
Oenanthe fistulosa



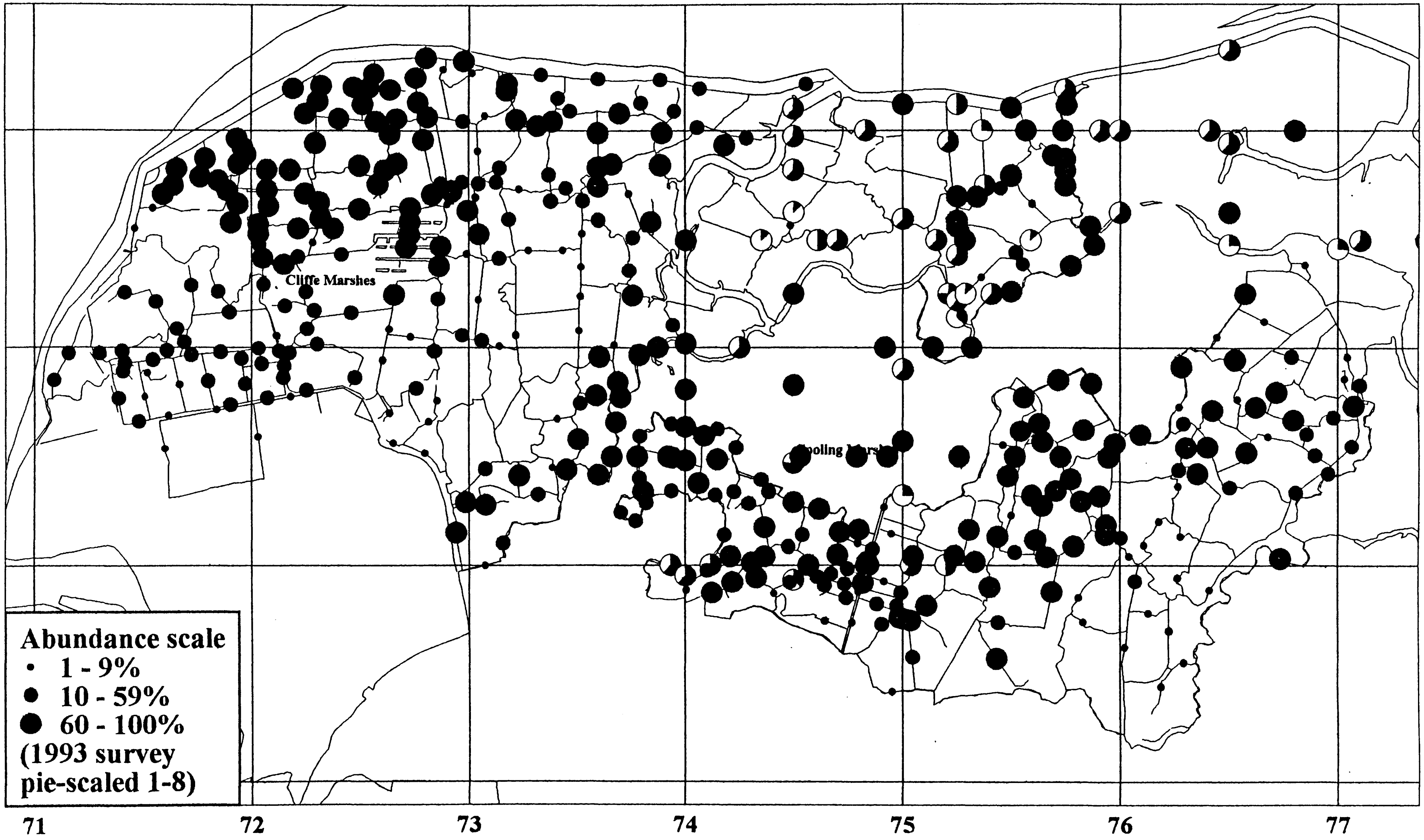
Phragmites australis



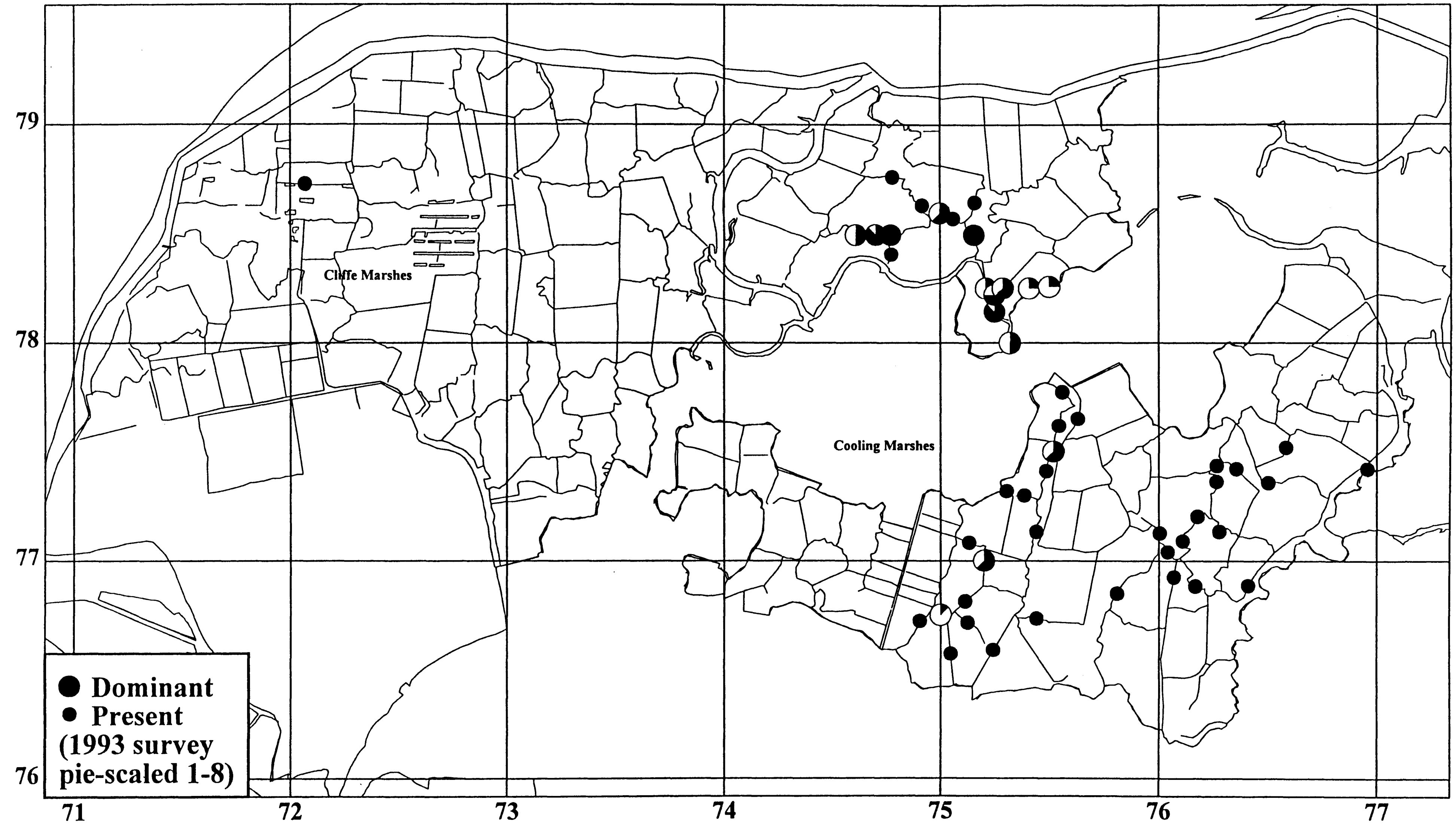
Scirpus lacustris



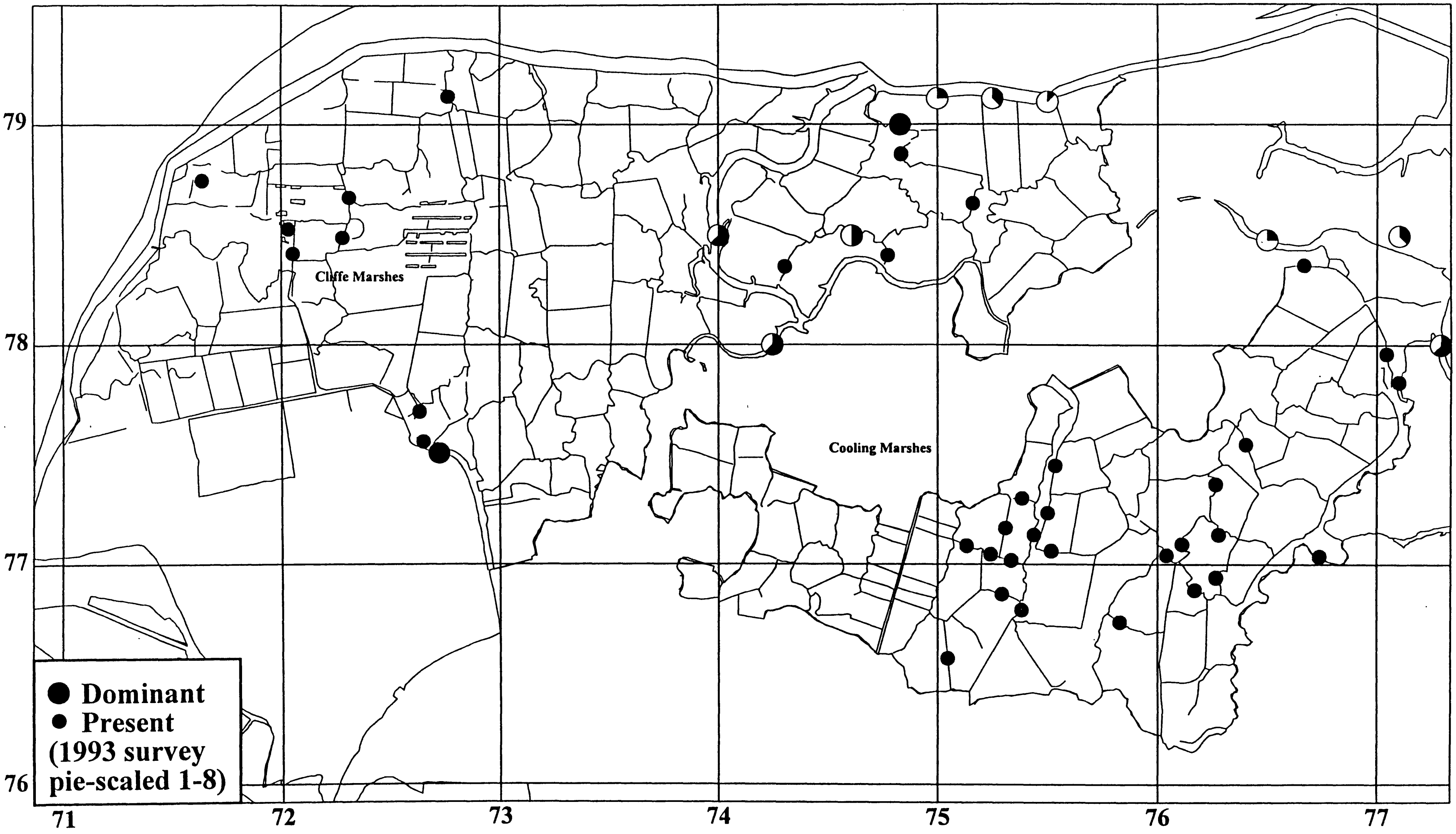
Scirpus maritimus



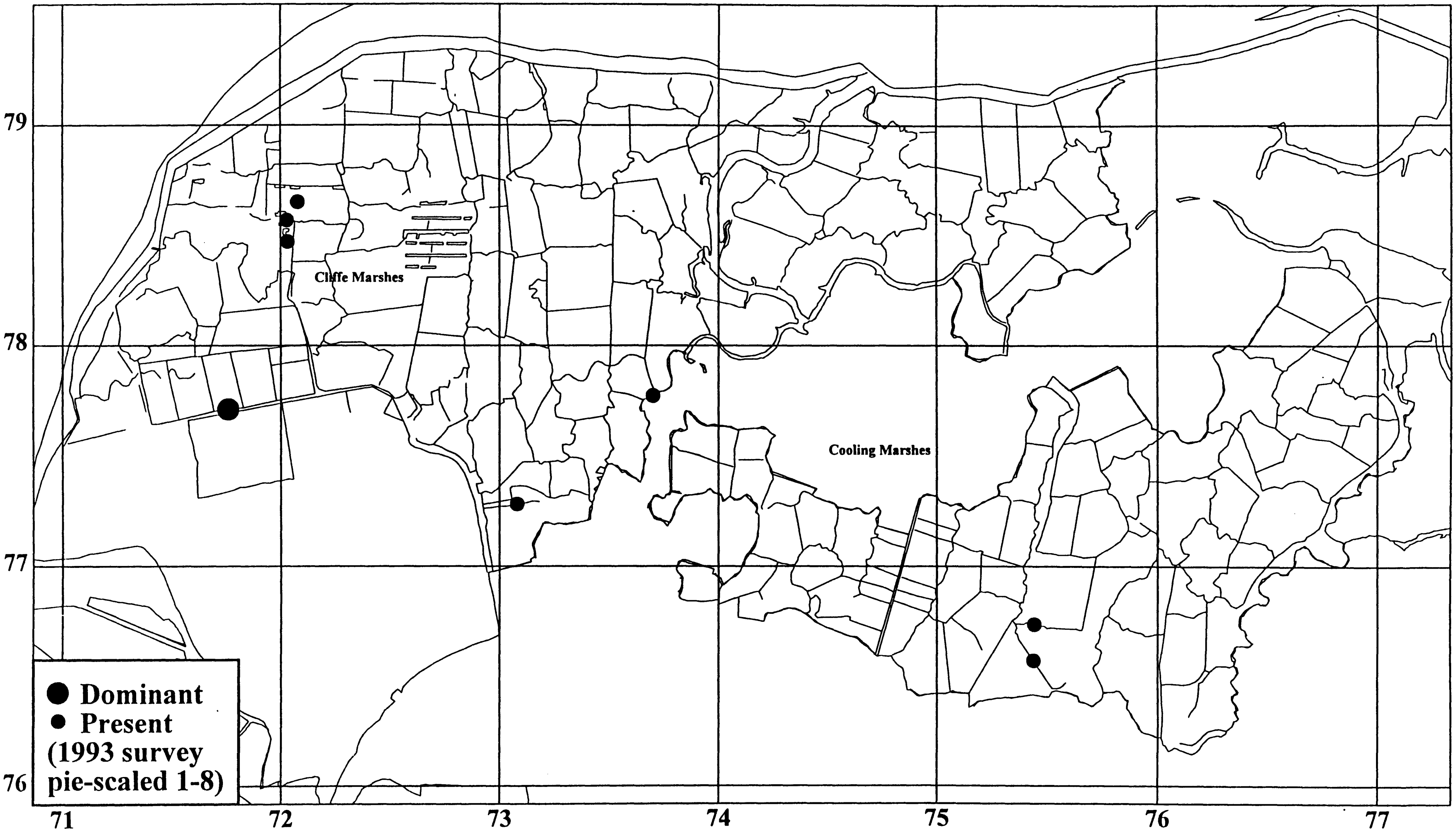
Sparganium erectum



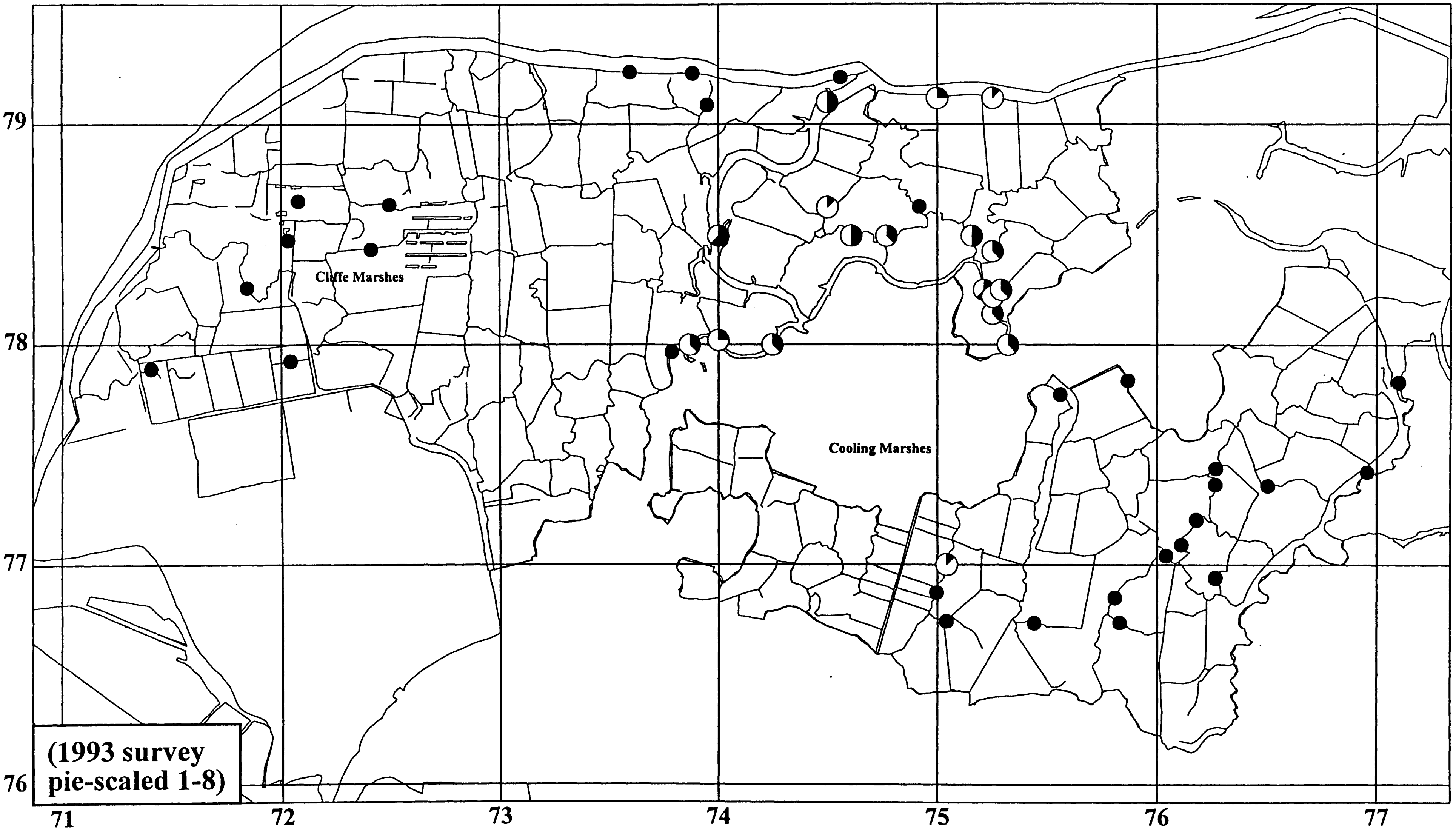
Typha angustifolia



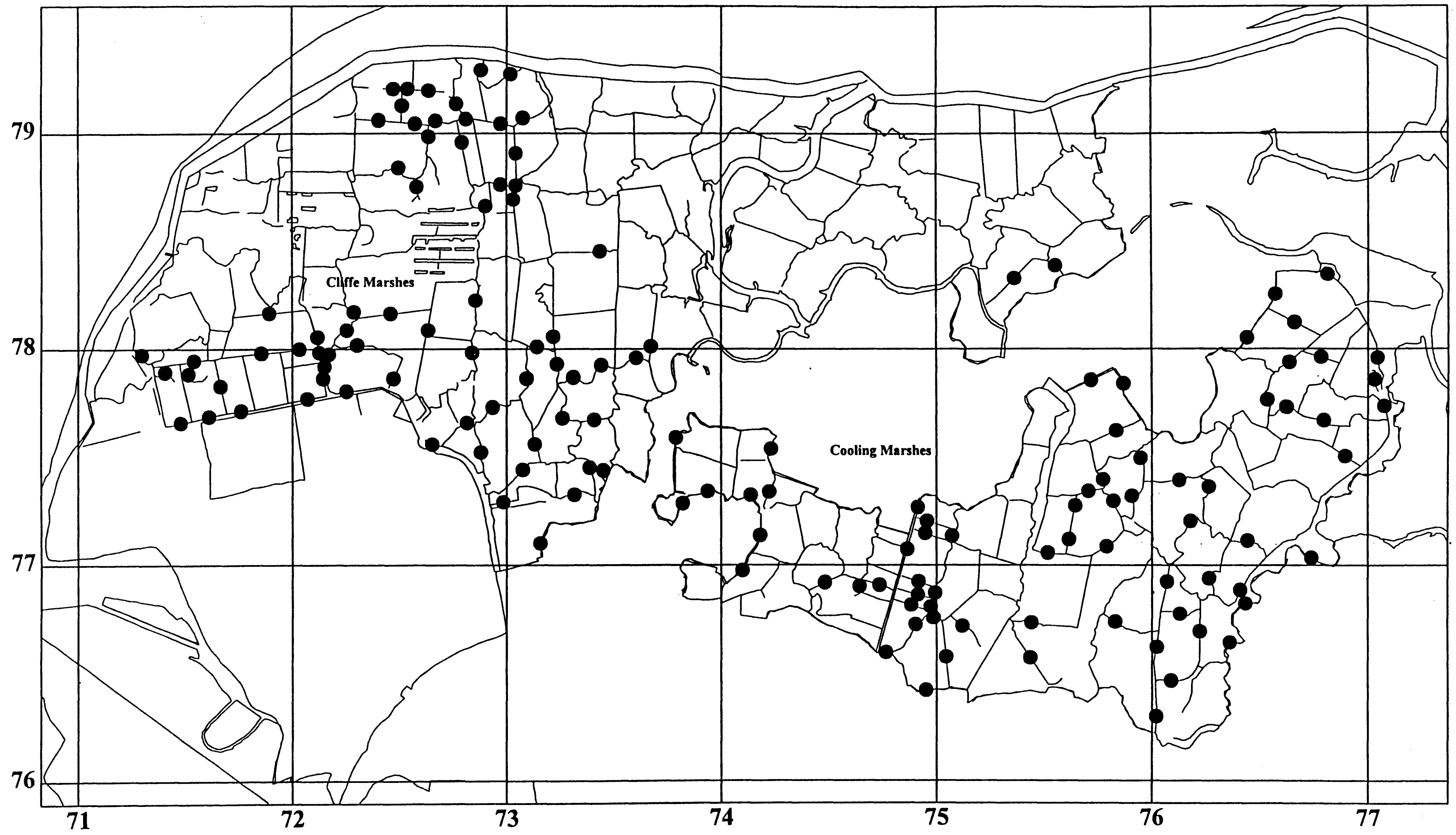
Typha latifolia



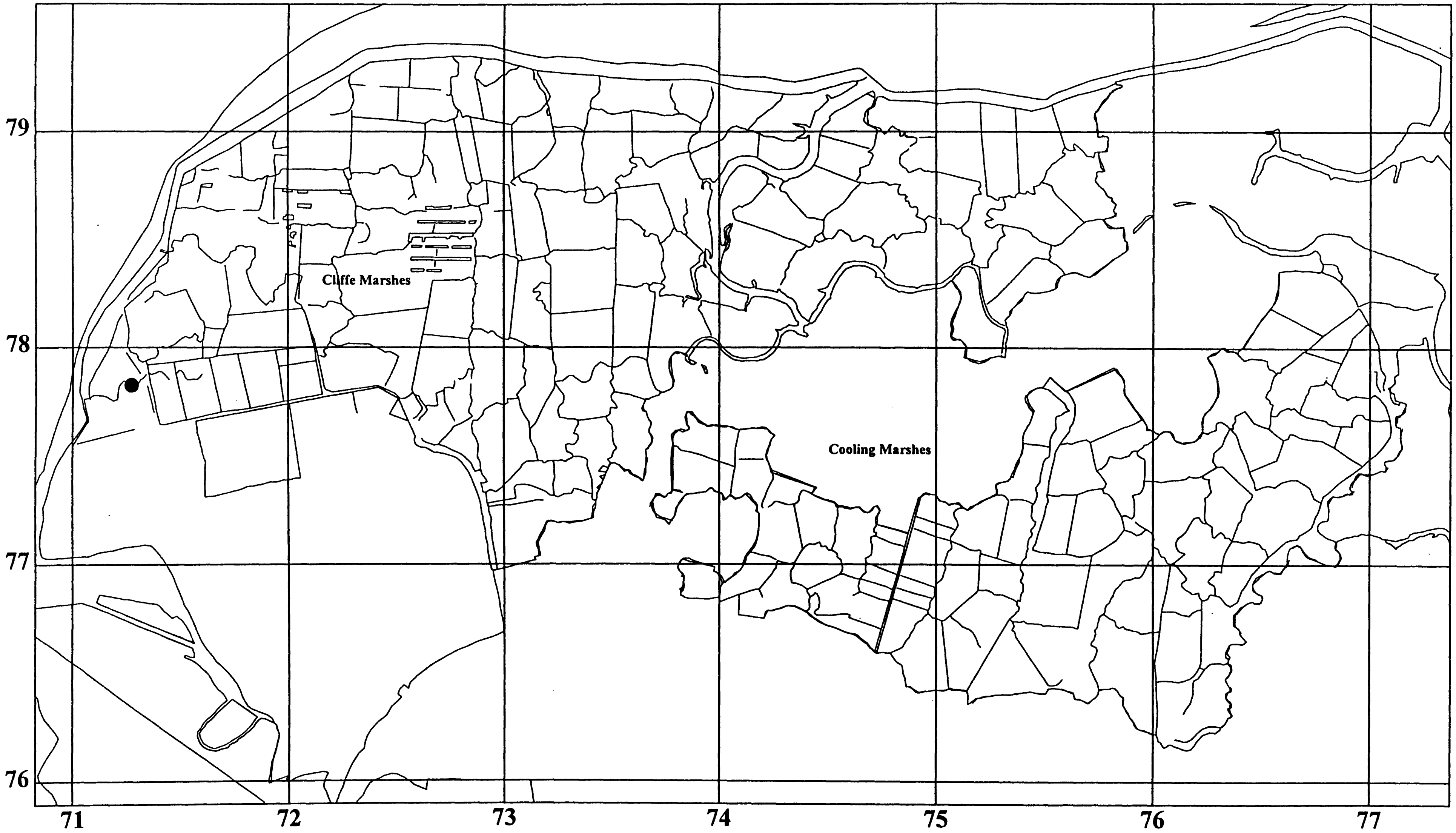
Veronica catenata



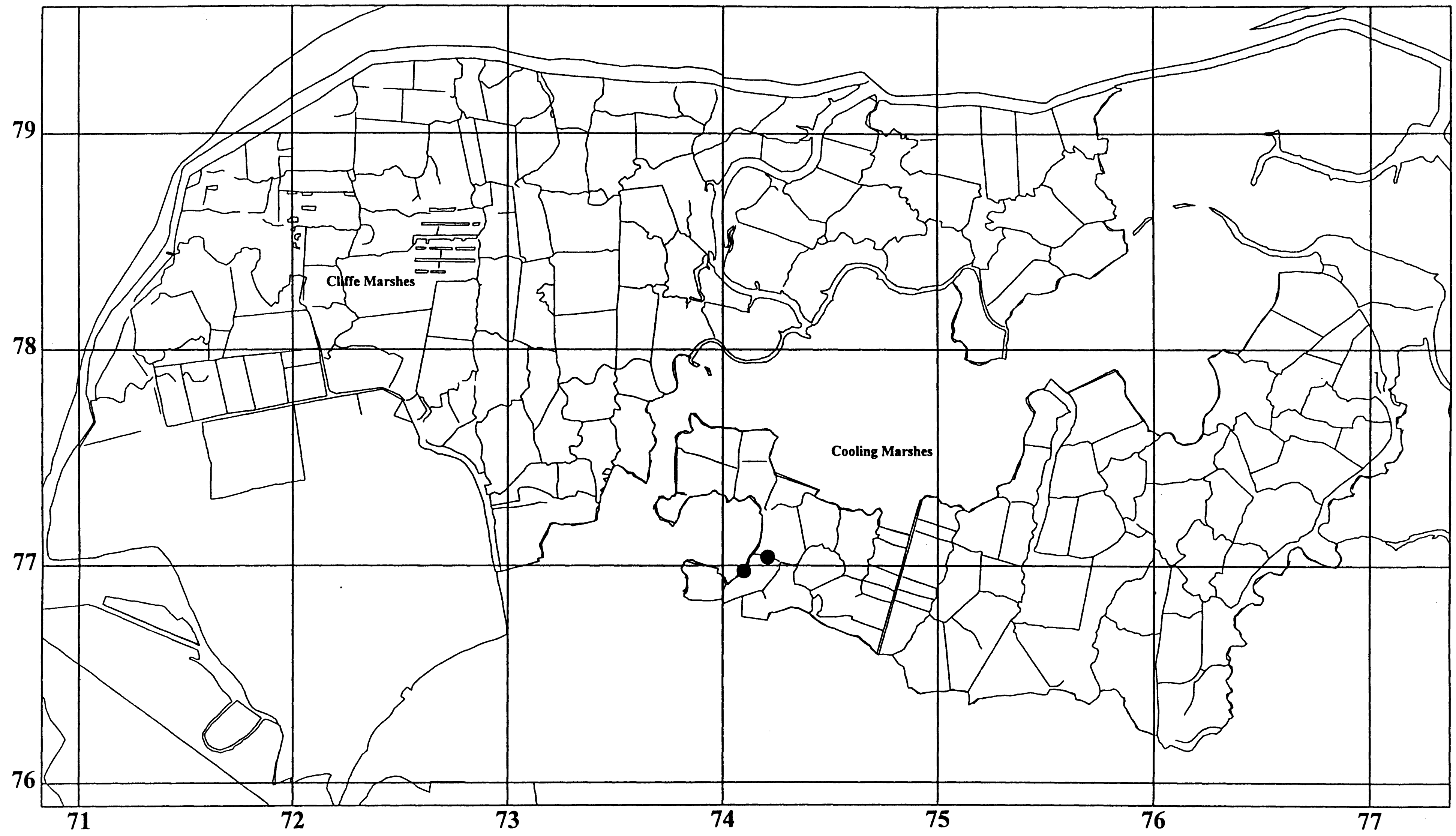
Carex divisa



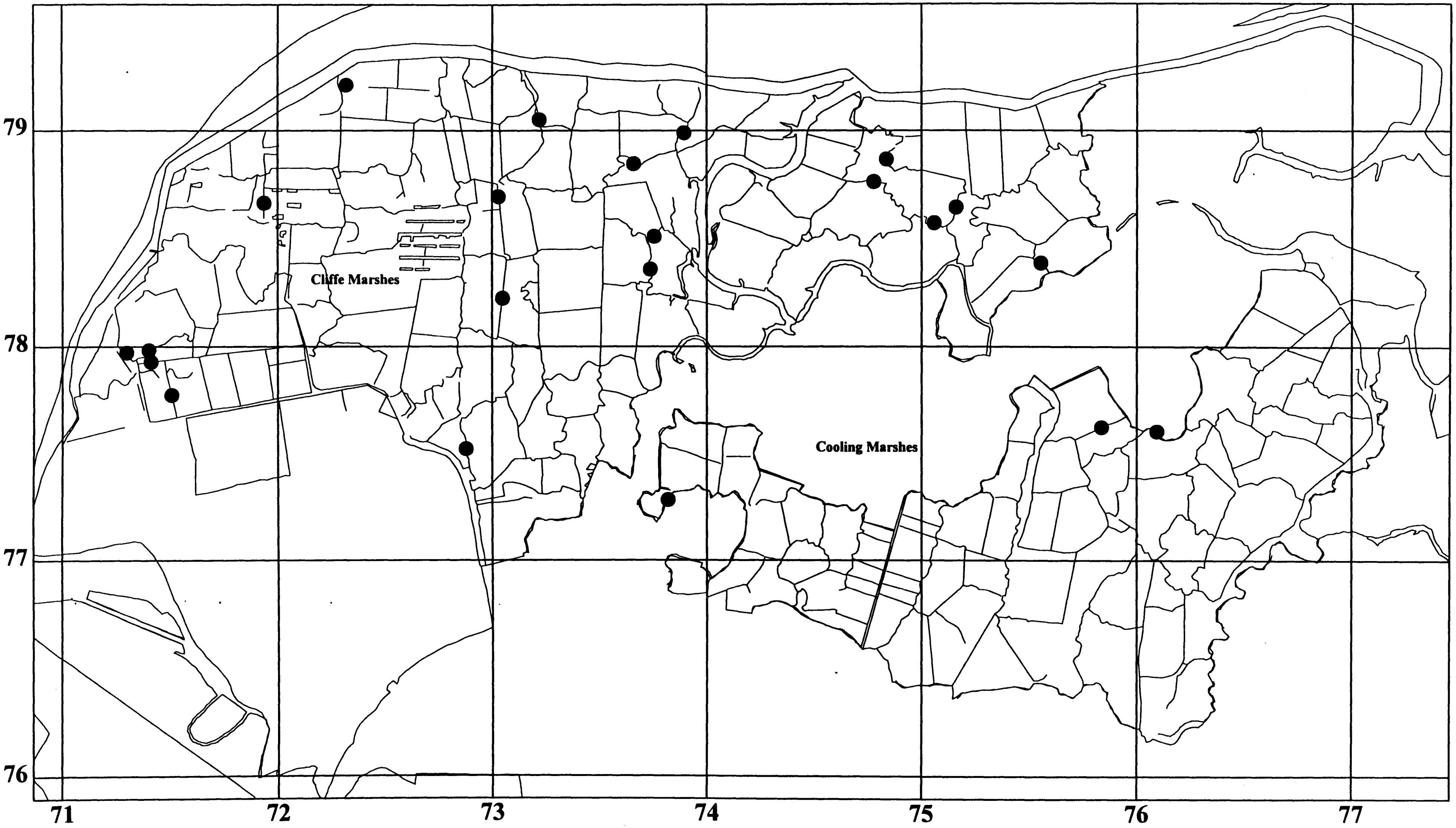
Chenopodium chenopodioides



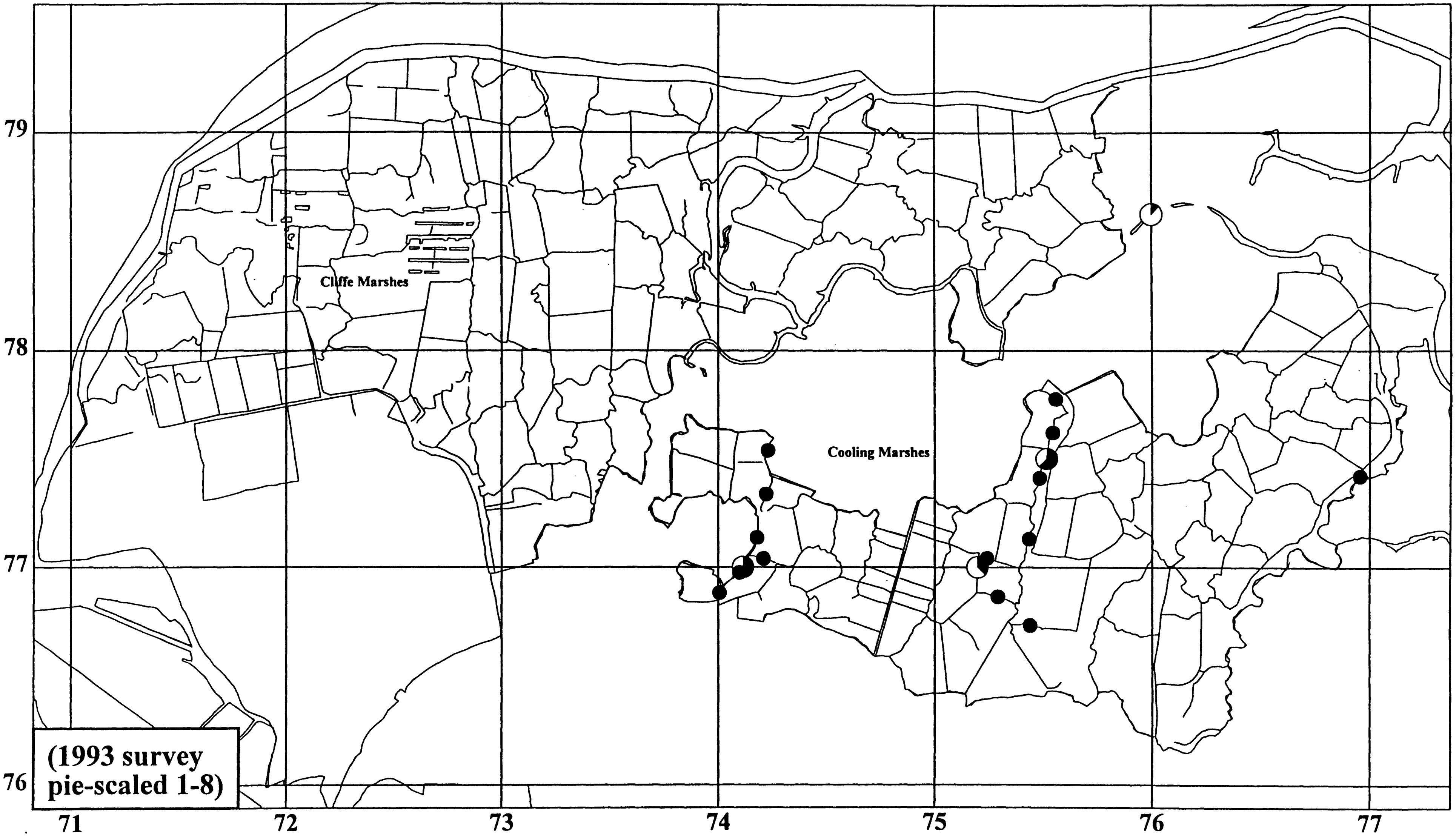
Crassula helmsii



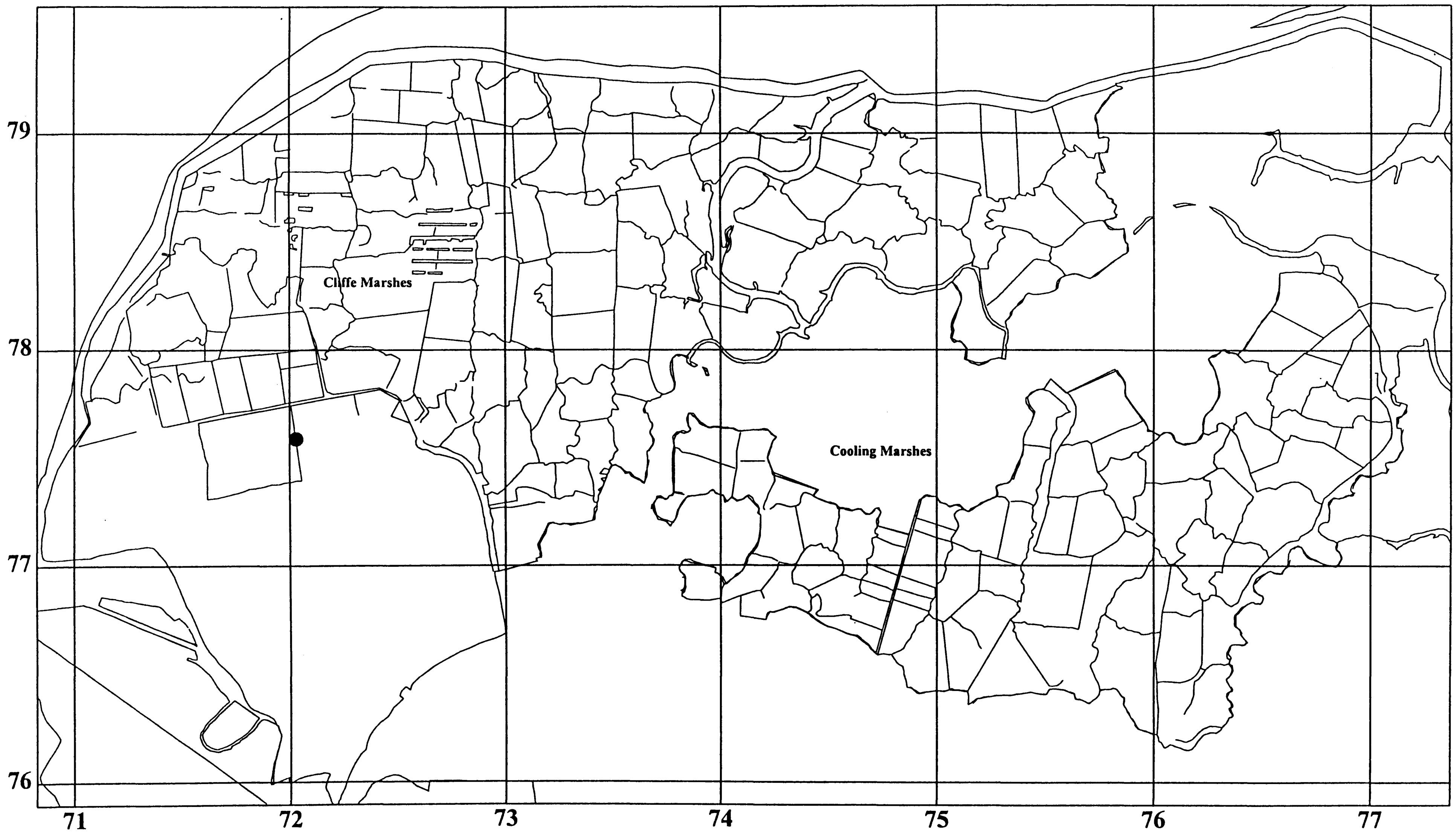
Juncus gerardii



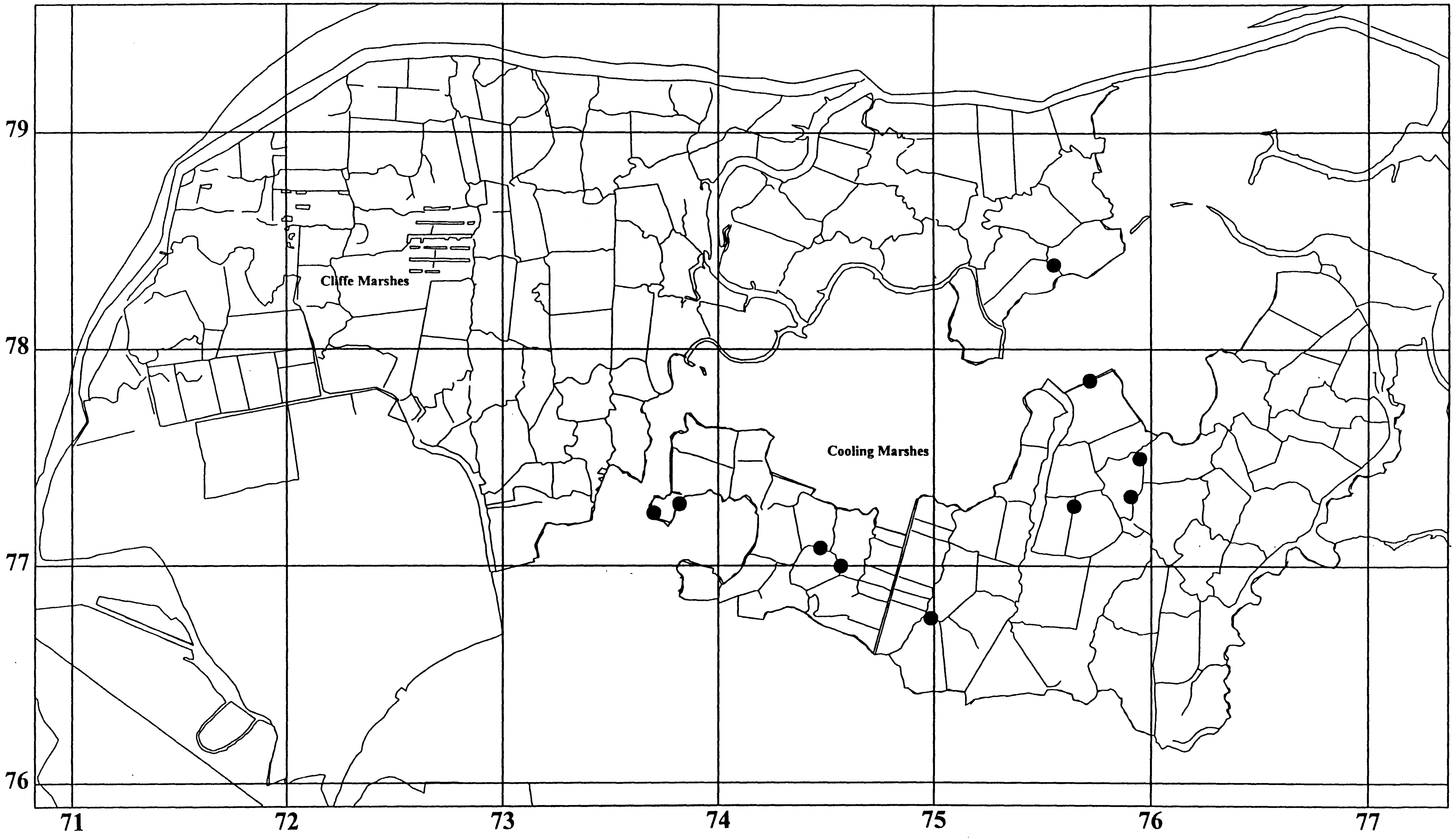
Lycopus europaeus



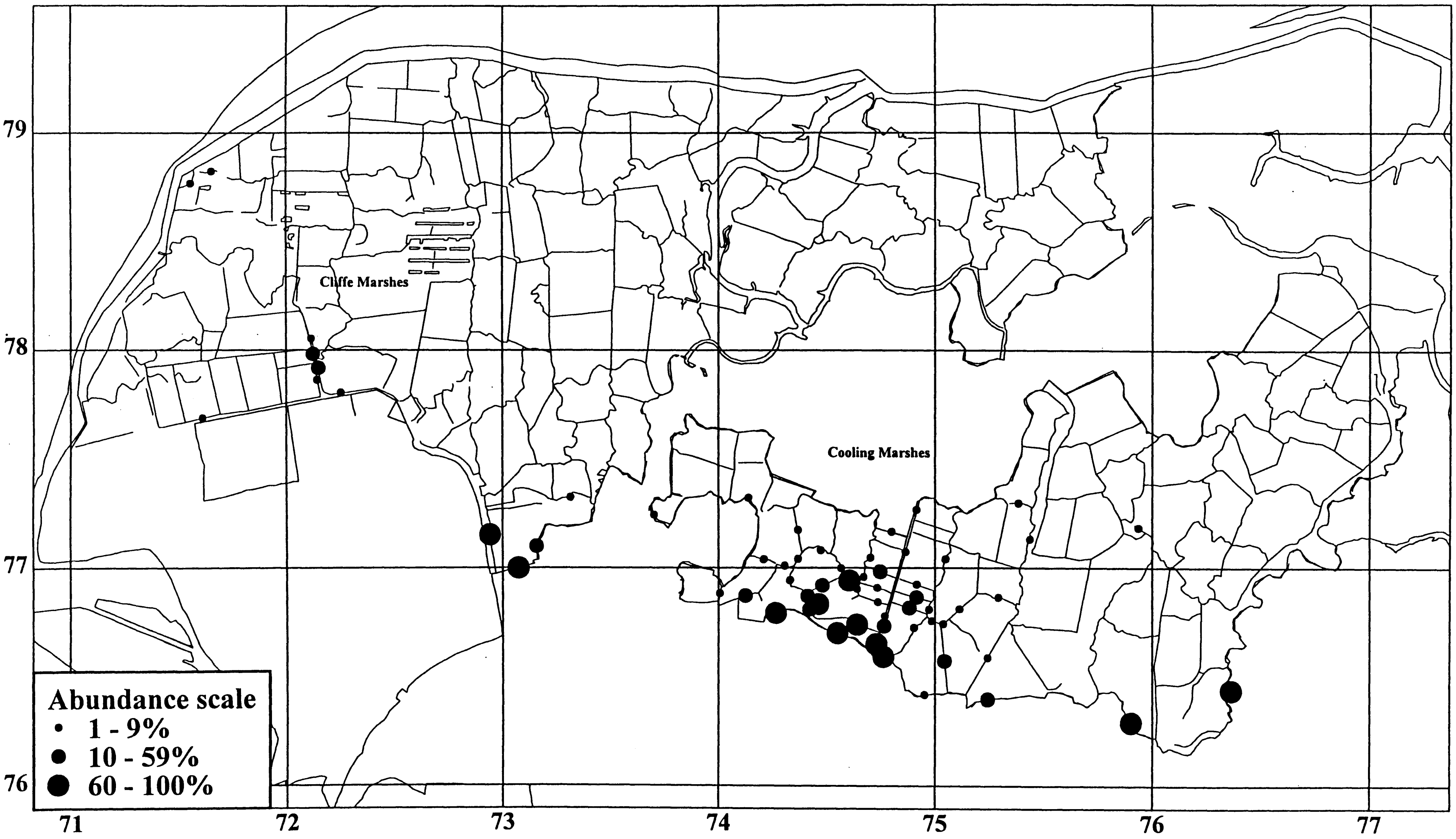
Polypogon monspeliensis



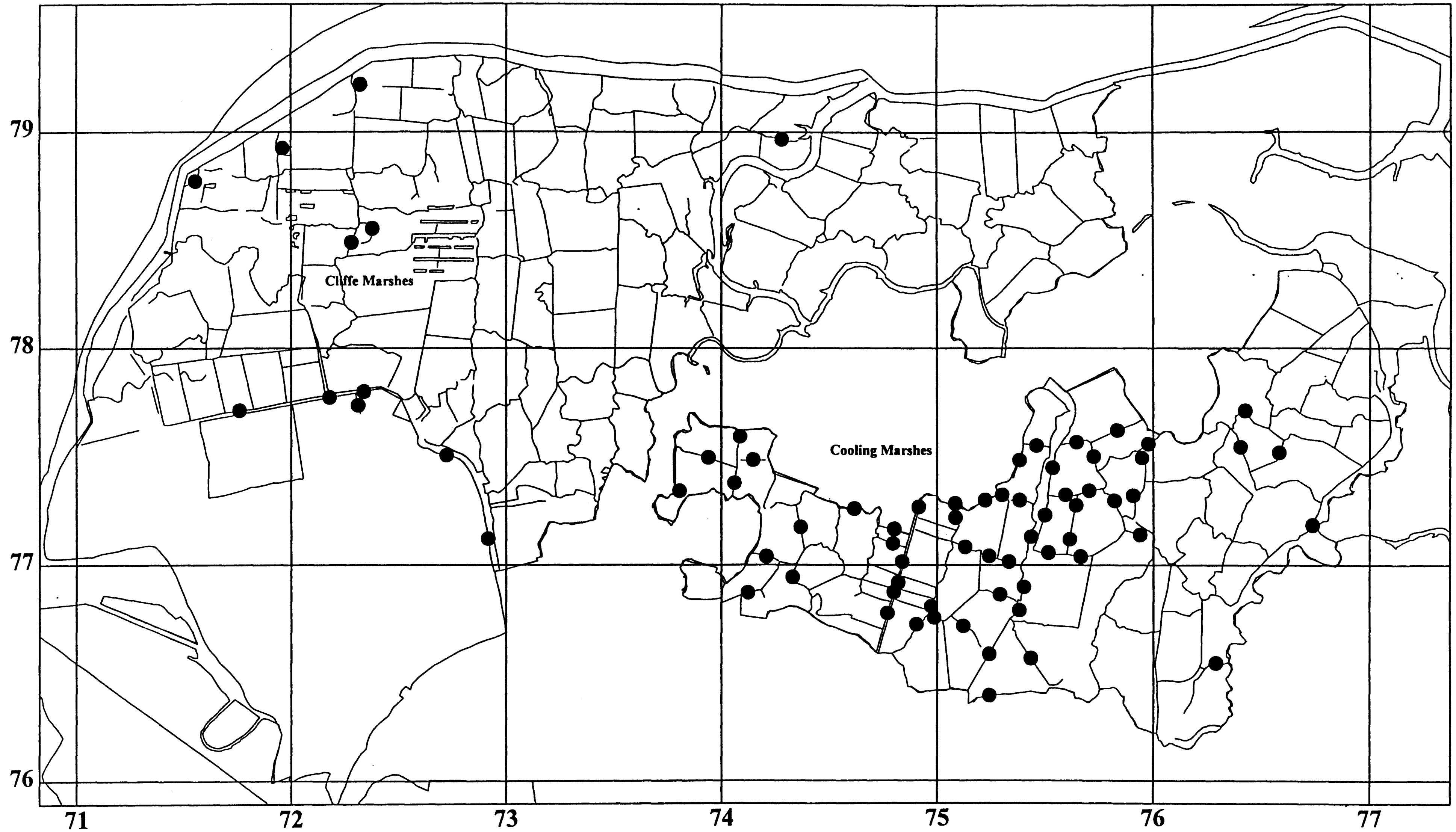
Samolus valerandi



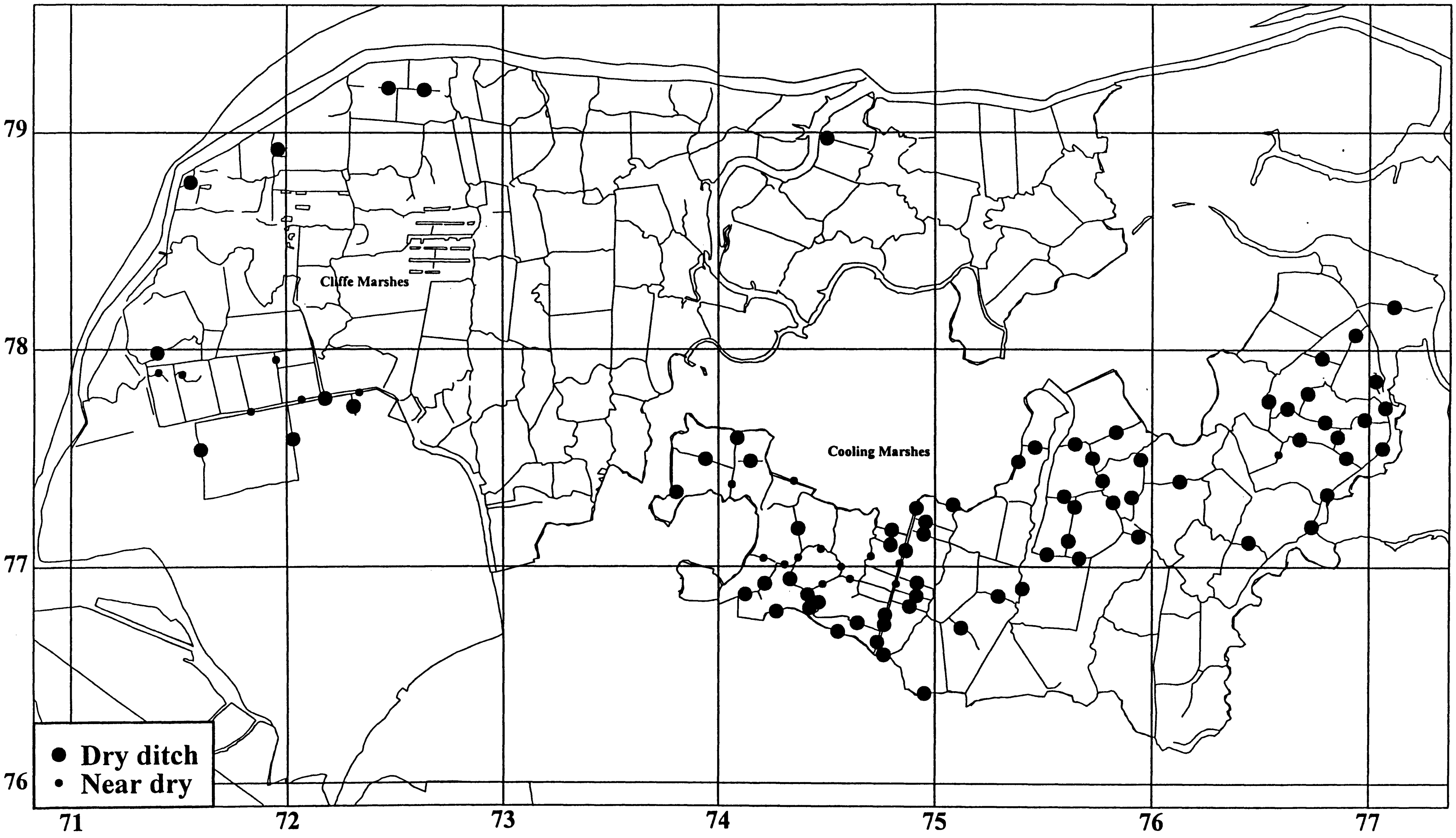
Scrub cover


Cliffe Marshes
Cooling Marshes
79
78
77
76
71
72
73
74
75
76
77
Abundance scale
• 1 - 9%
● 10 - 59%
● 60 - 100%

Ditch choked

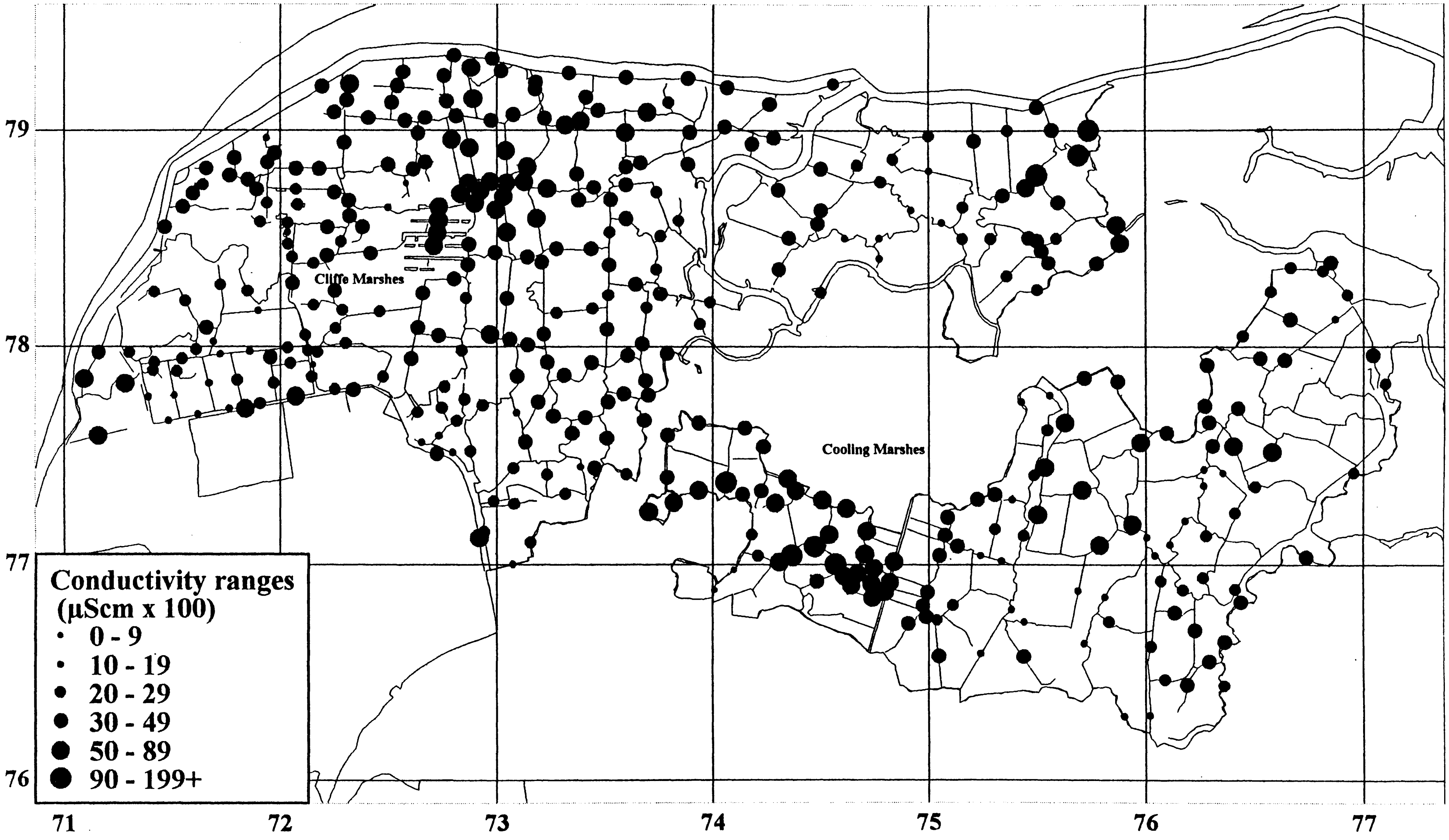


Ditch dry

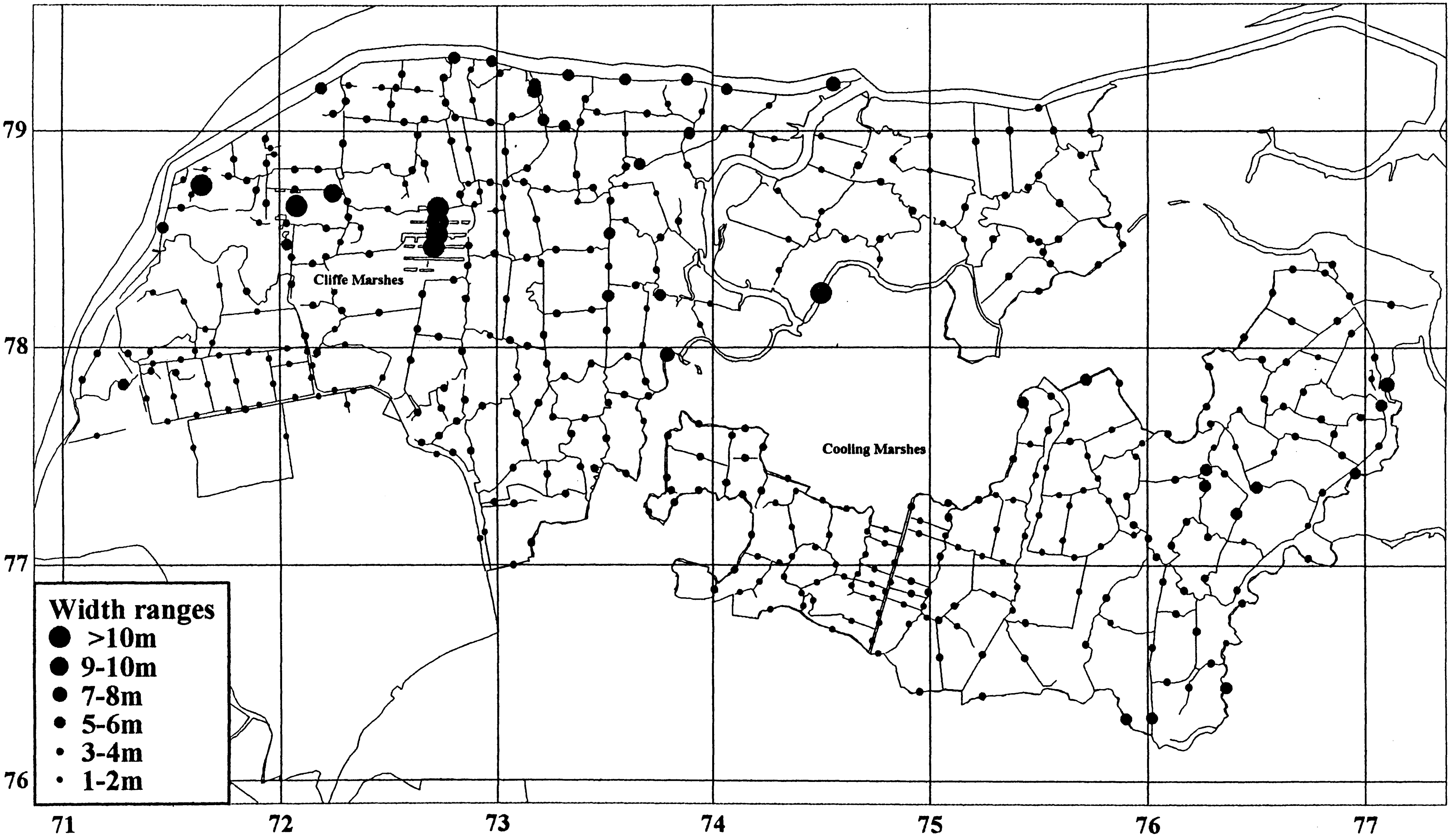


Cliffe Marshes
Cooling Marshes
79
78
77
76
71
72
73
74
75
76
77
● Dry ditch
• Near dry

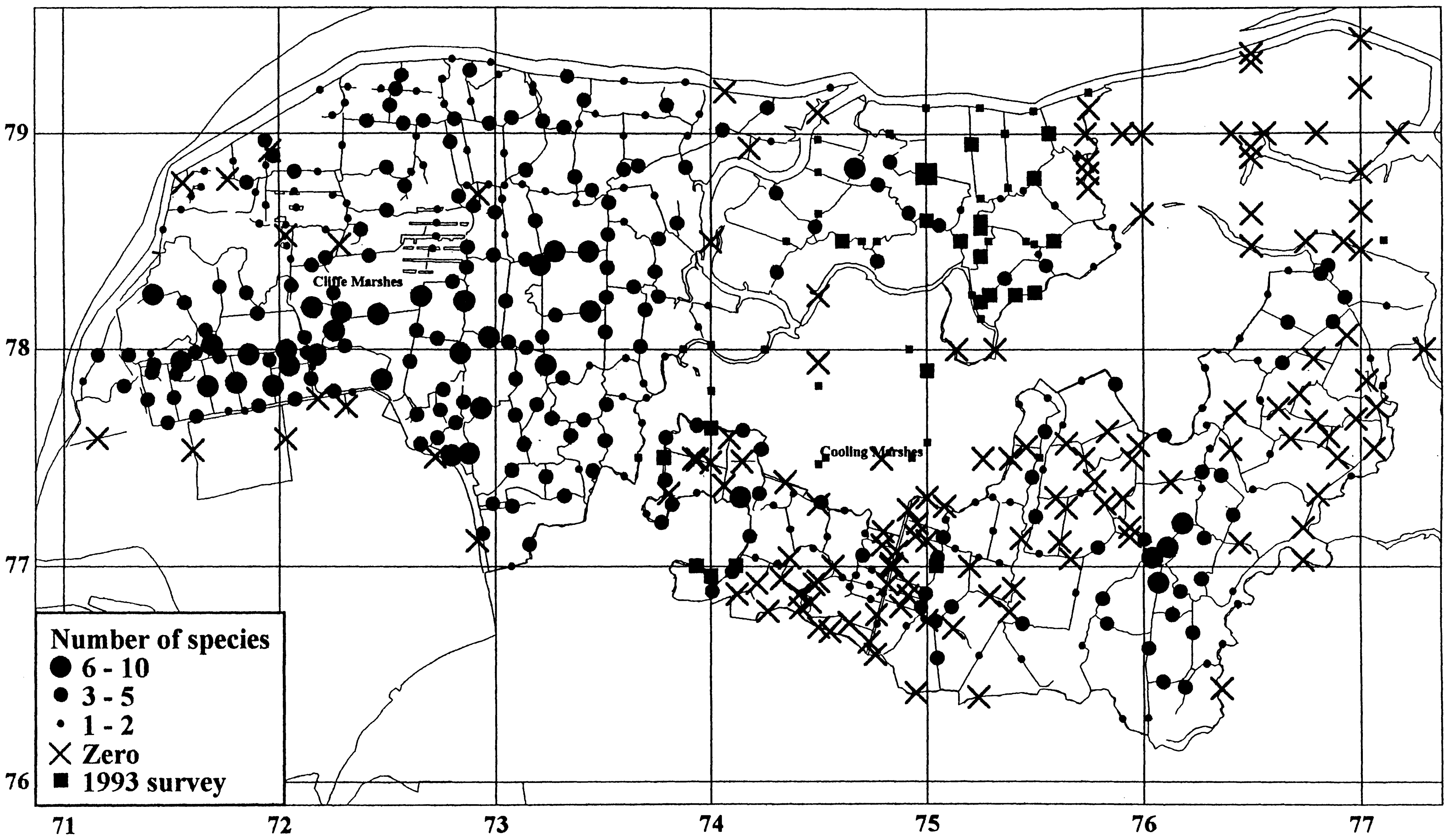
Conductivity values



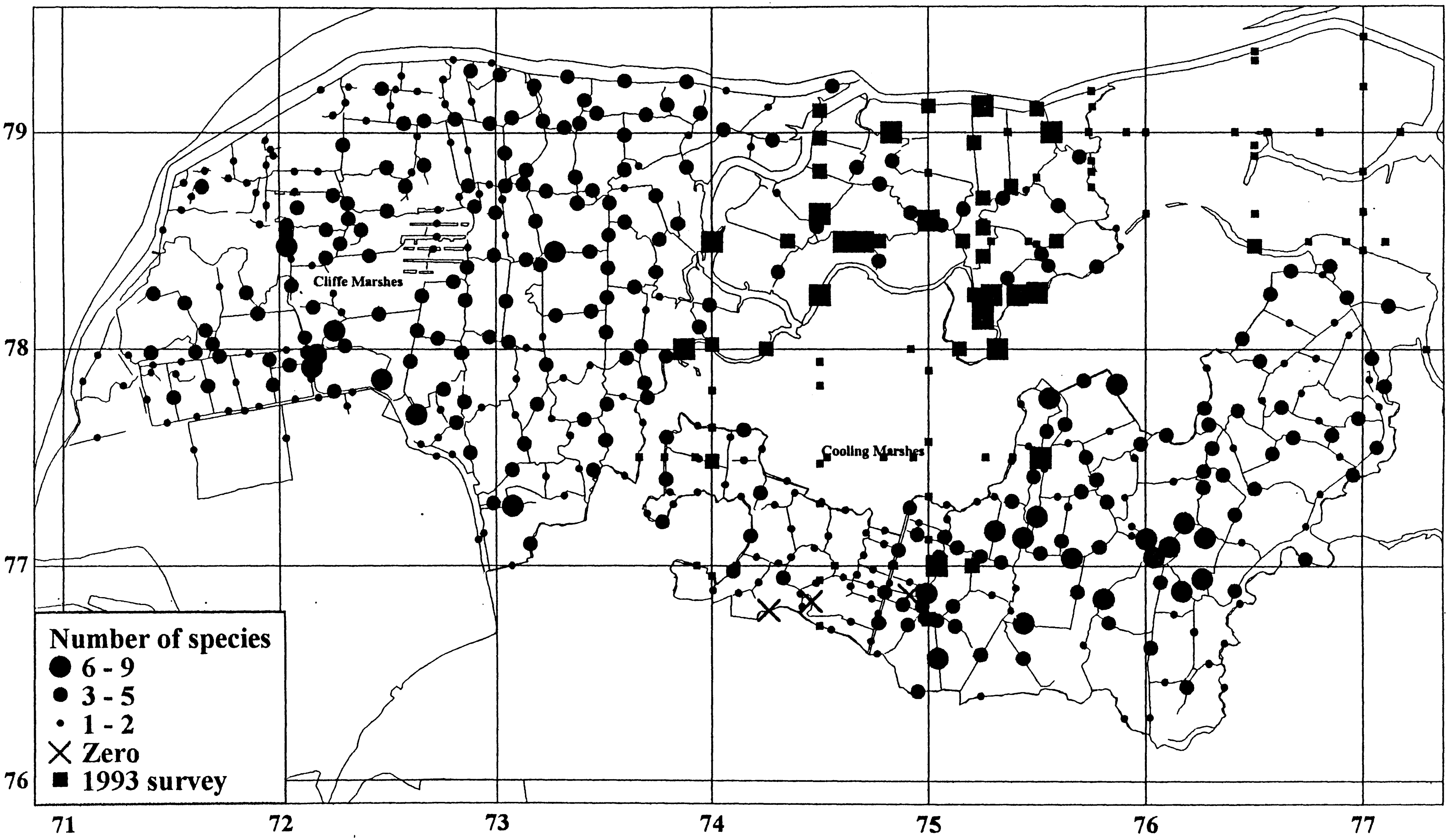
Ditch widths



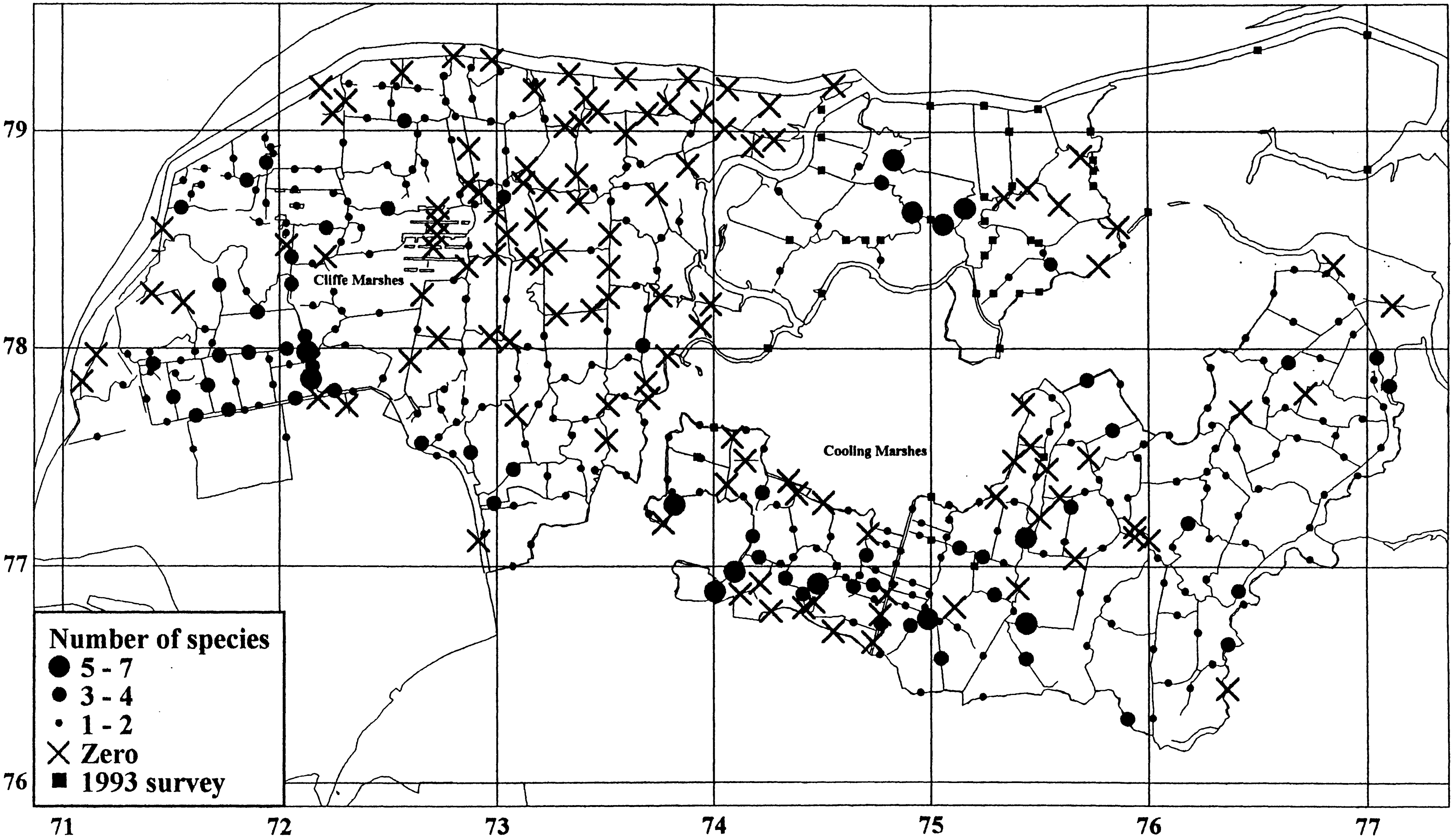
Number of aquatic species



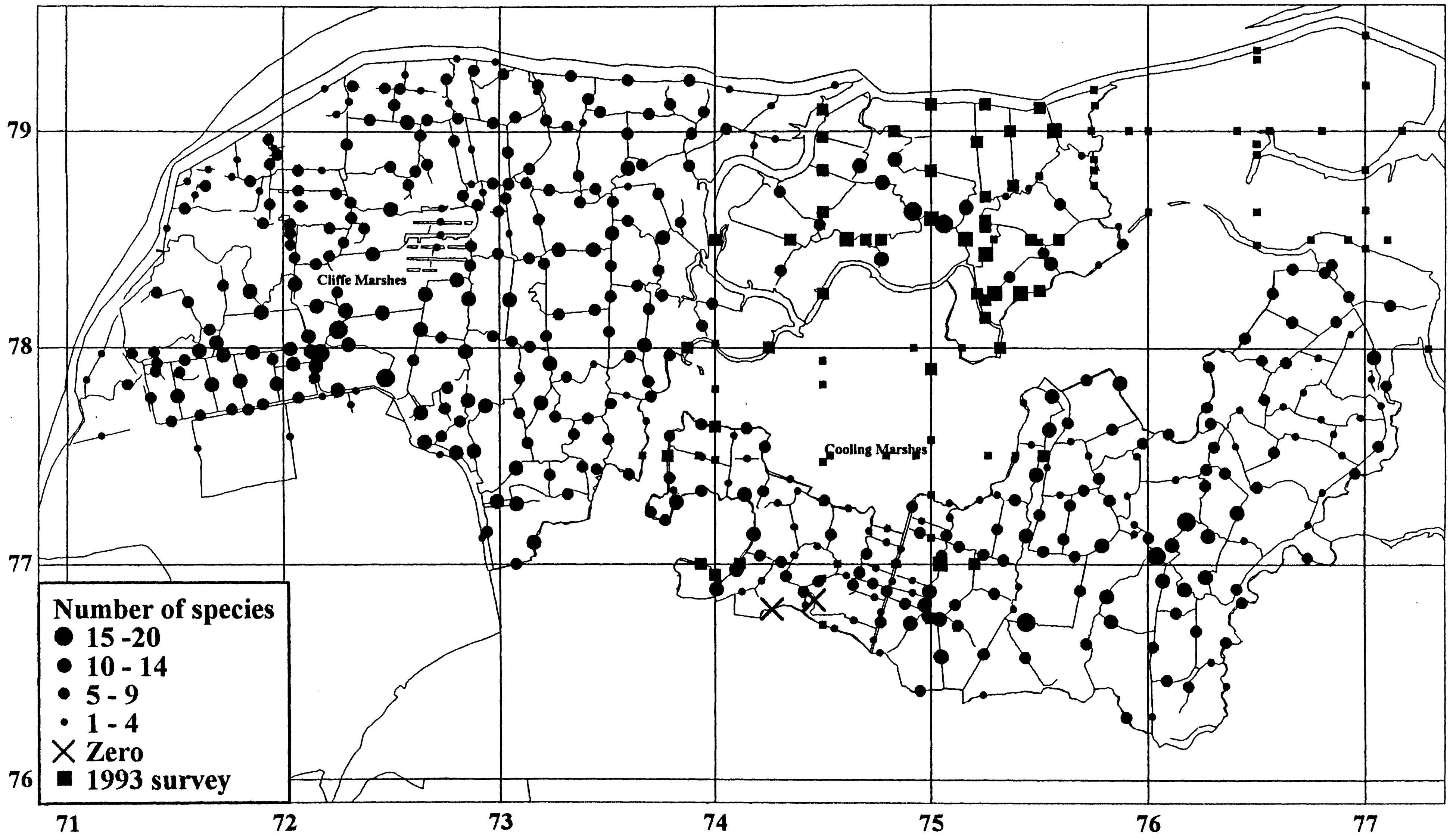
Number of emergent species



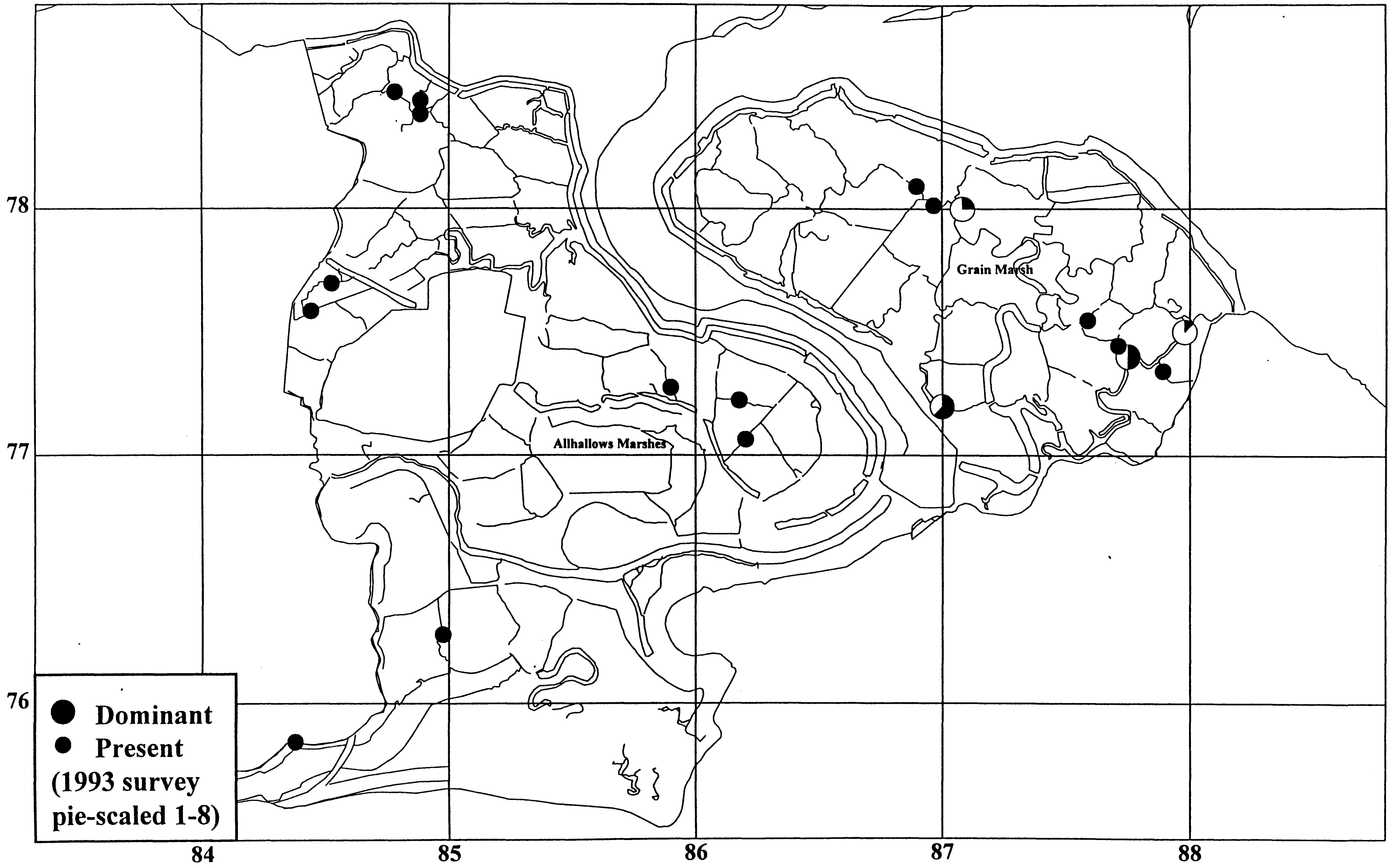
Number of bank species



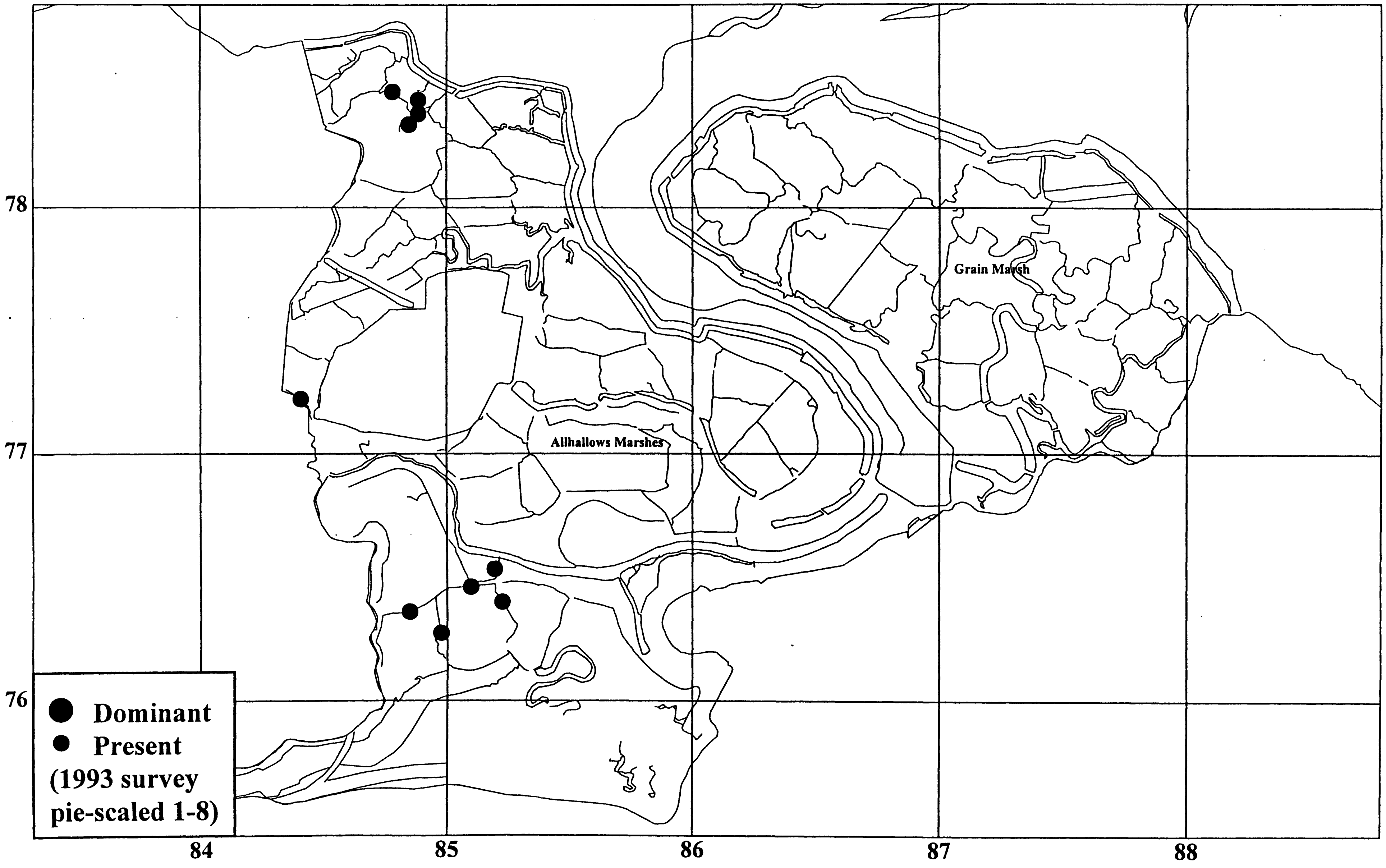
Total number of species



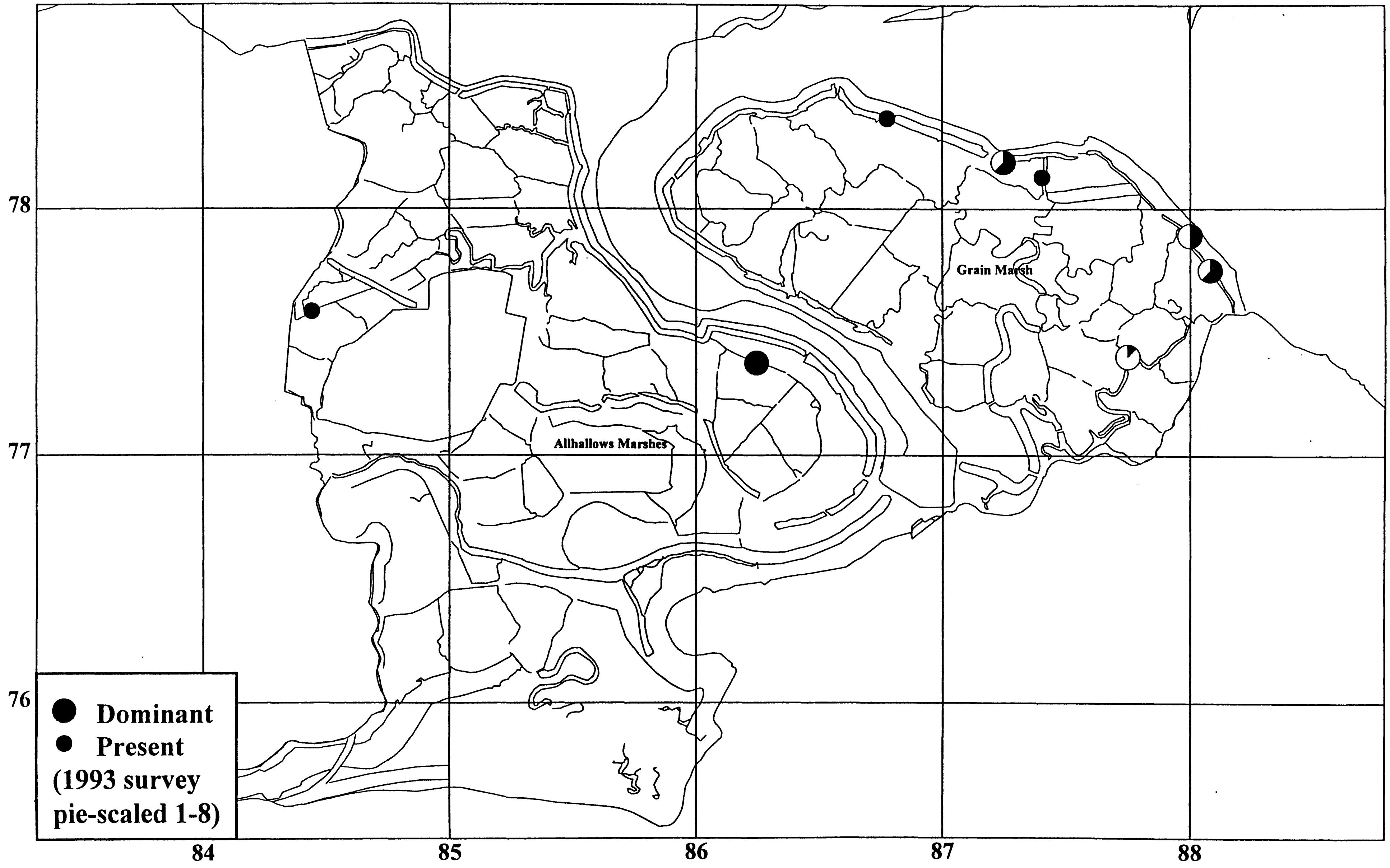
Ceratophyllum submersum



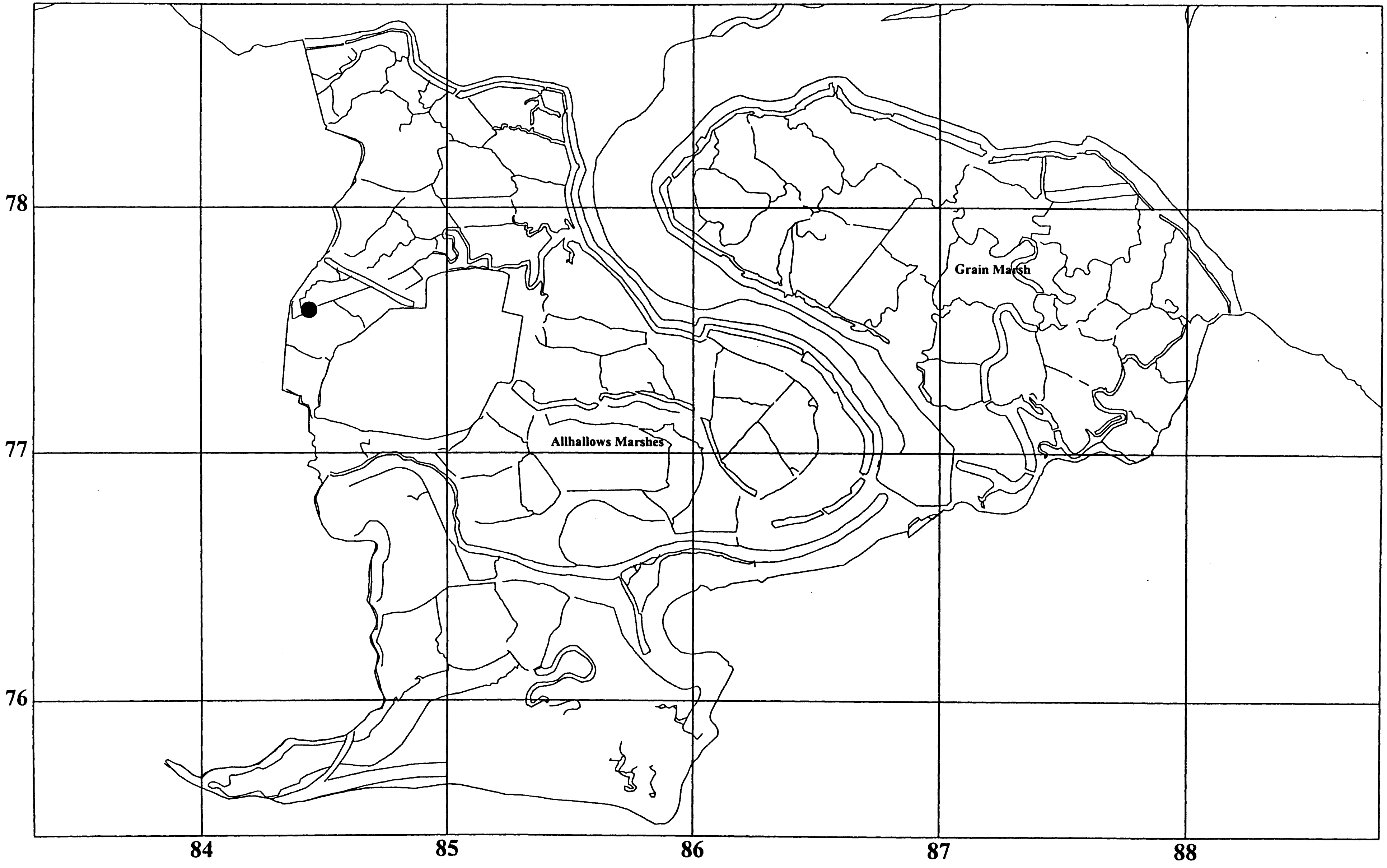
Lemna gibba


78
77
76
84
85
86
87
88
Grain Marsh
Allhallows Marshes
● Dominant
● Present
(1993 survey
pie-scaled 1-8)

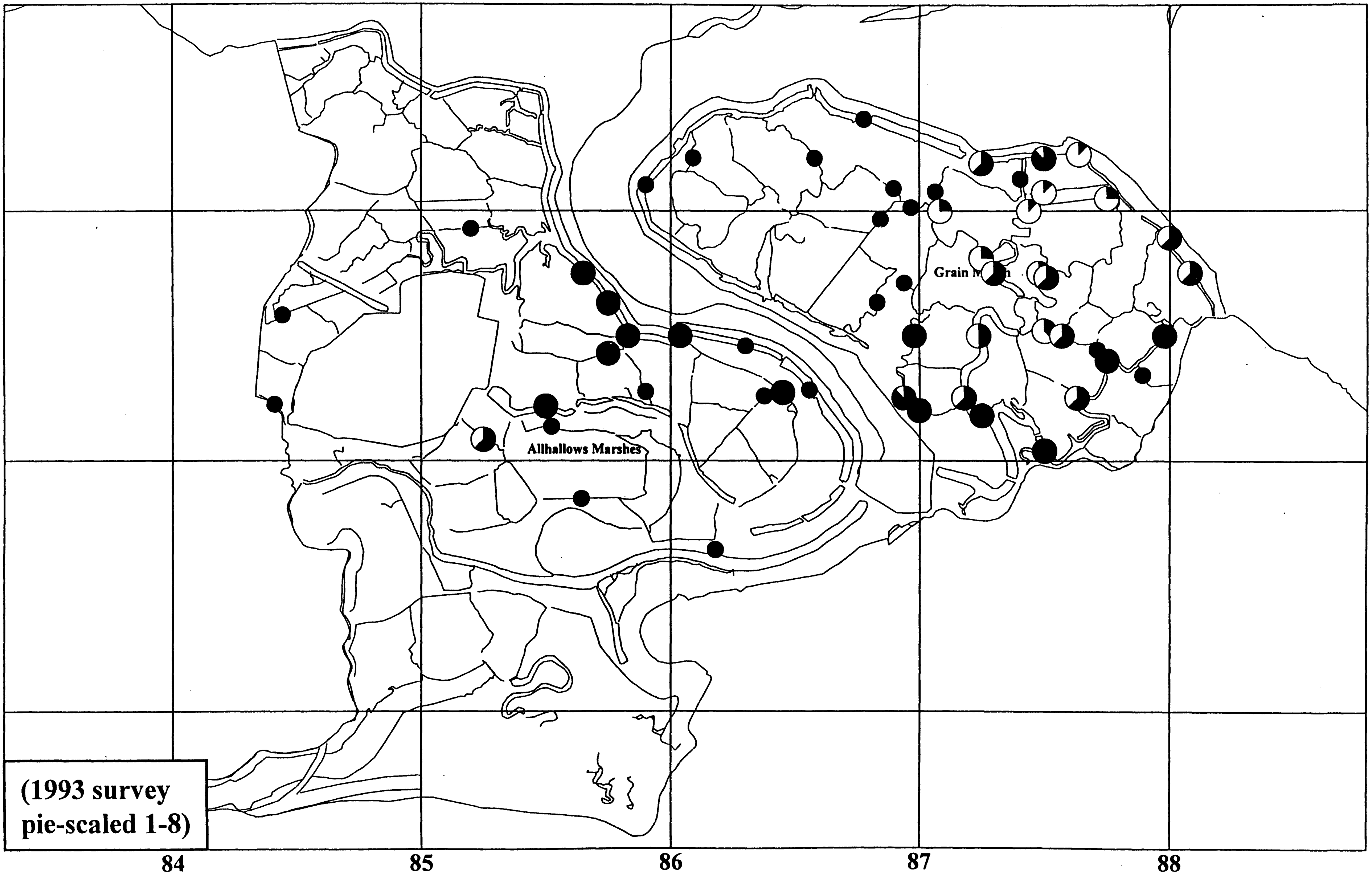
Myriophyllum spicatum



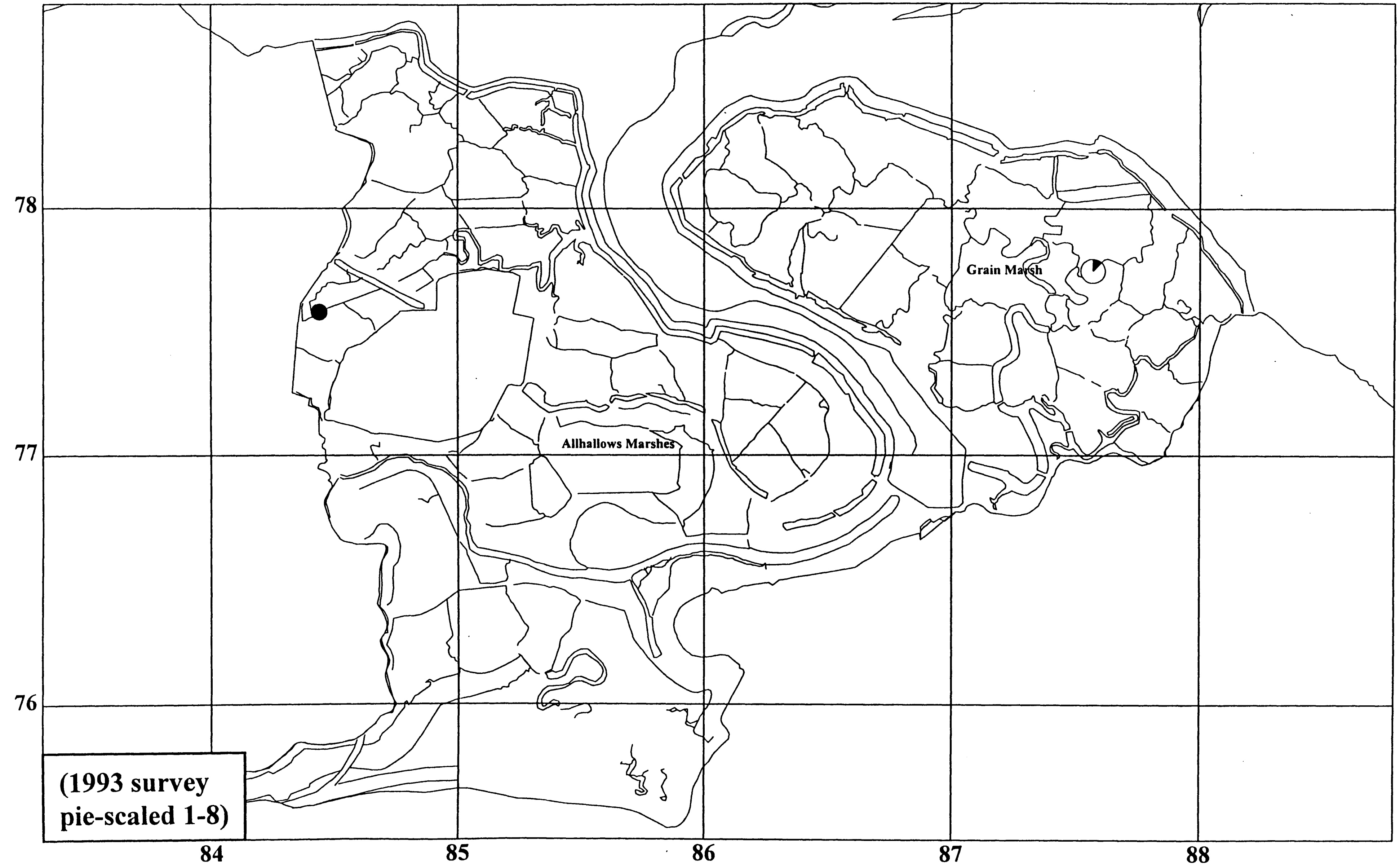
Potamogeton crispus



Potamogeton pectinatus

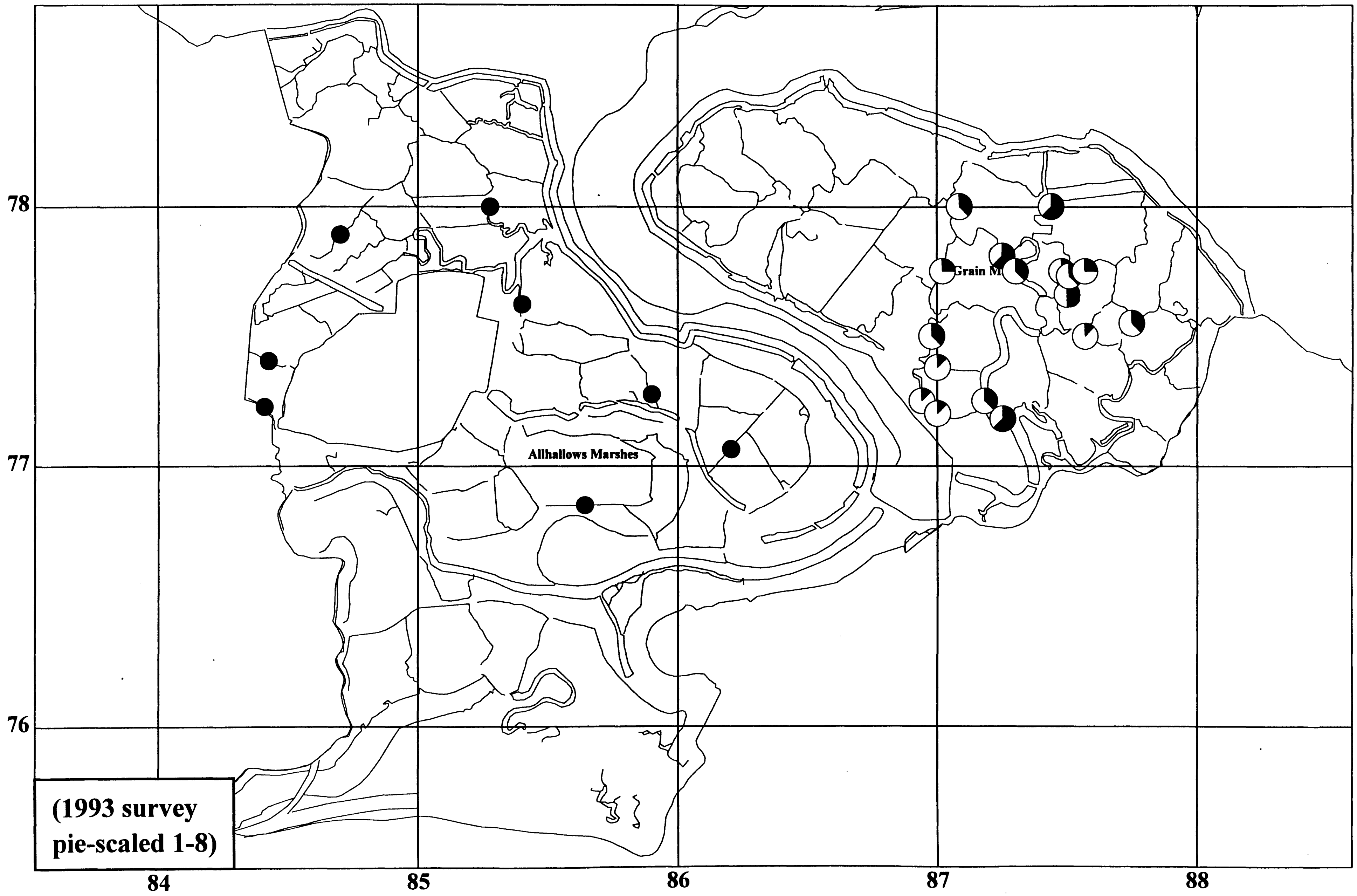


Potamogeton pusillus/berchtoldii

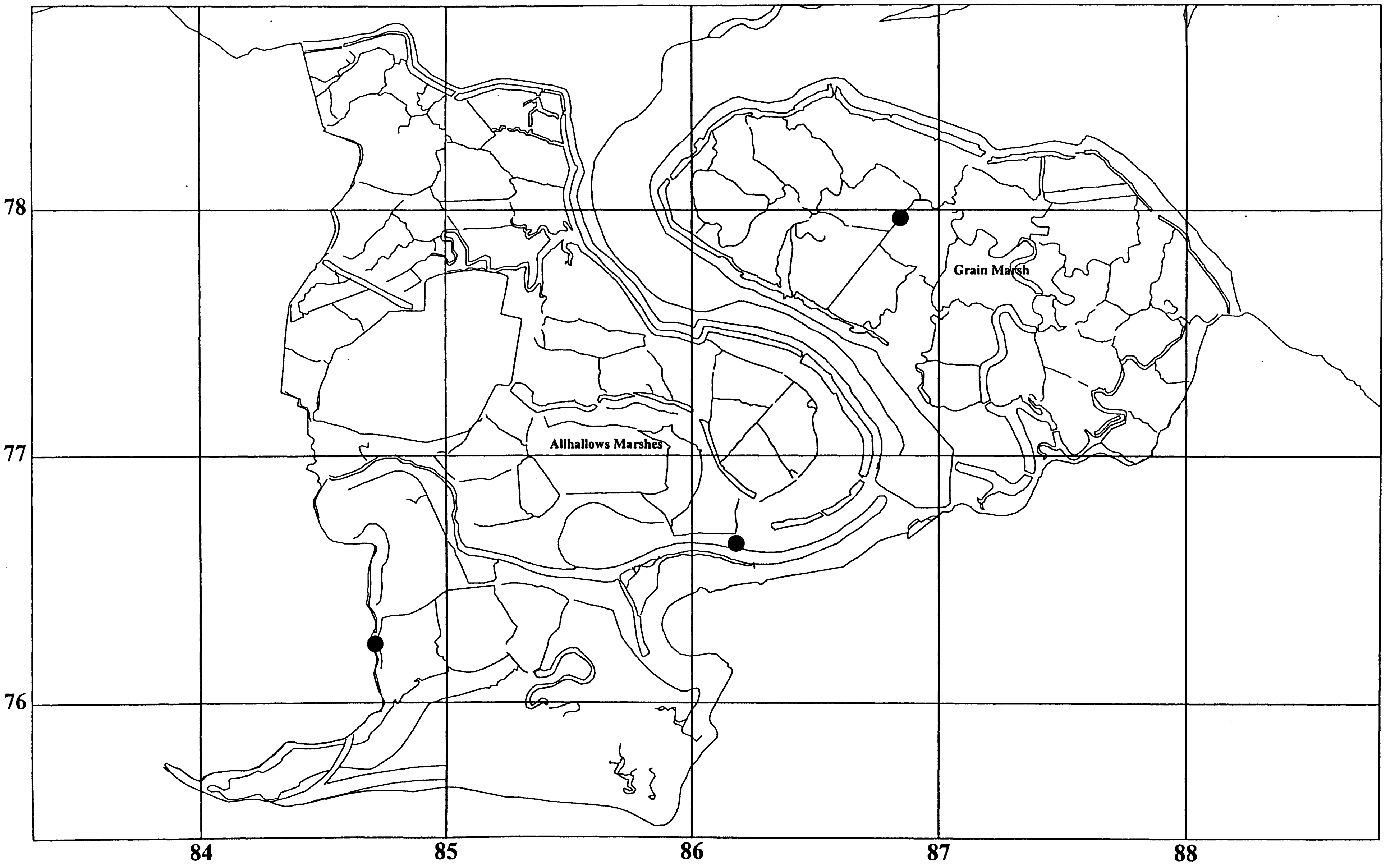


(1993 survey
pie-scaled 1-8)

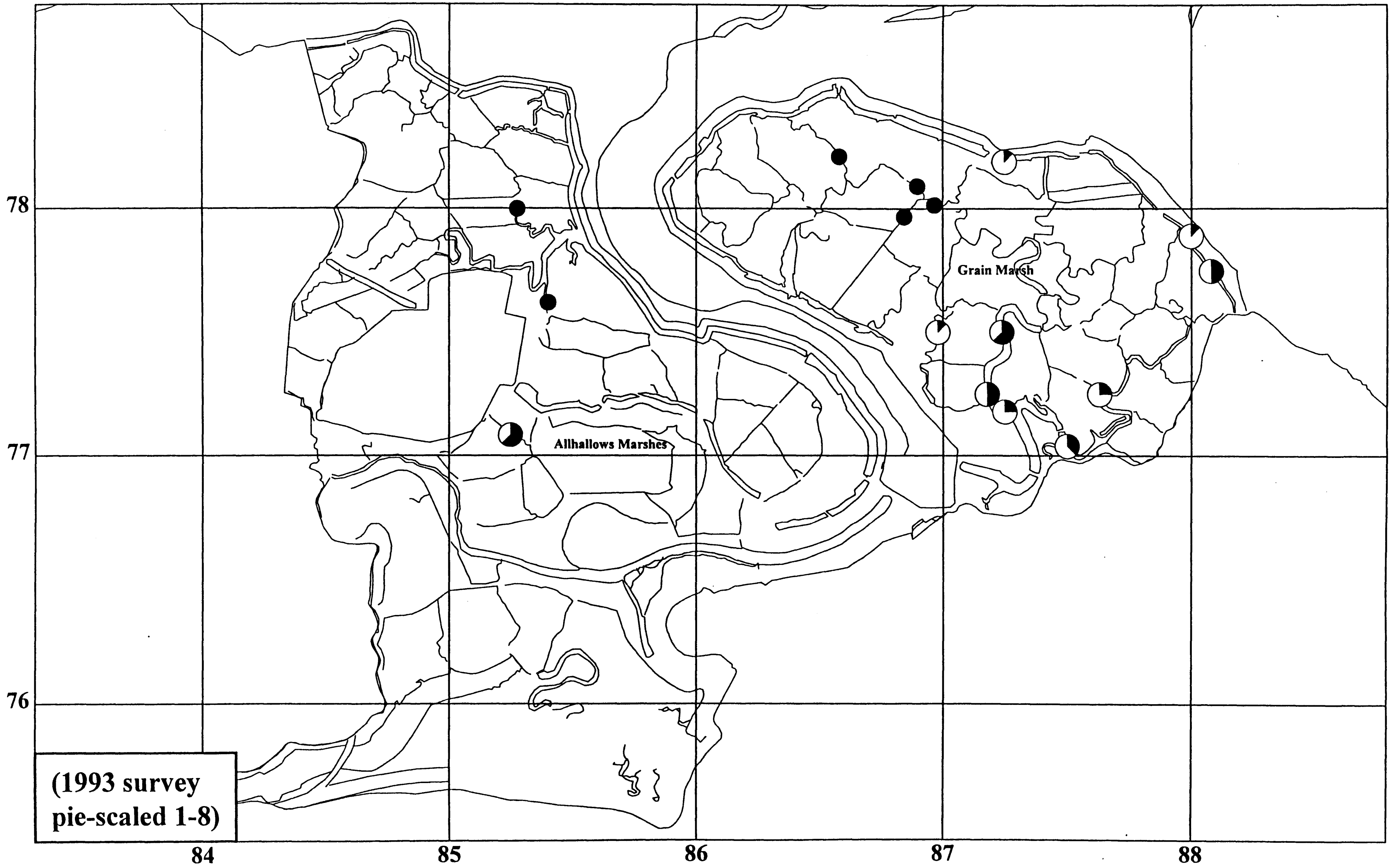
Ranunculus baudotii



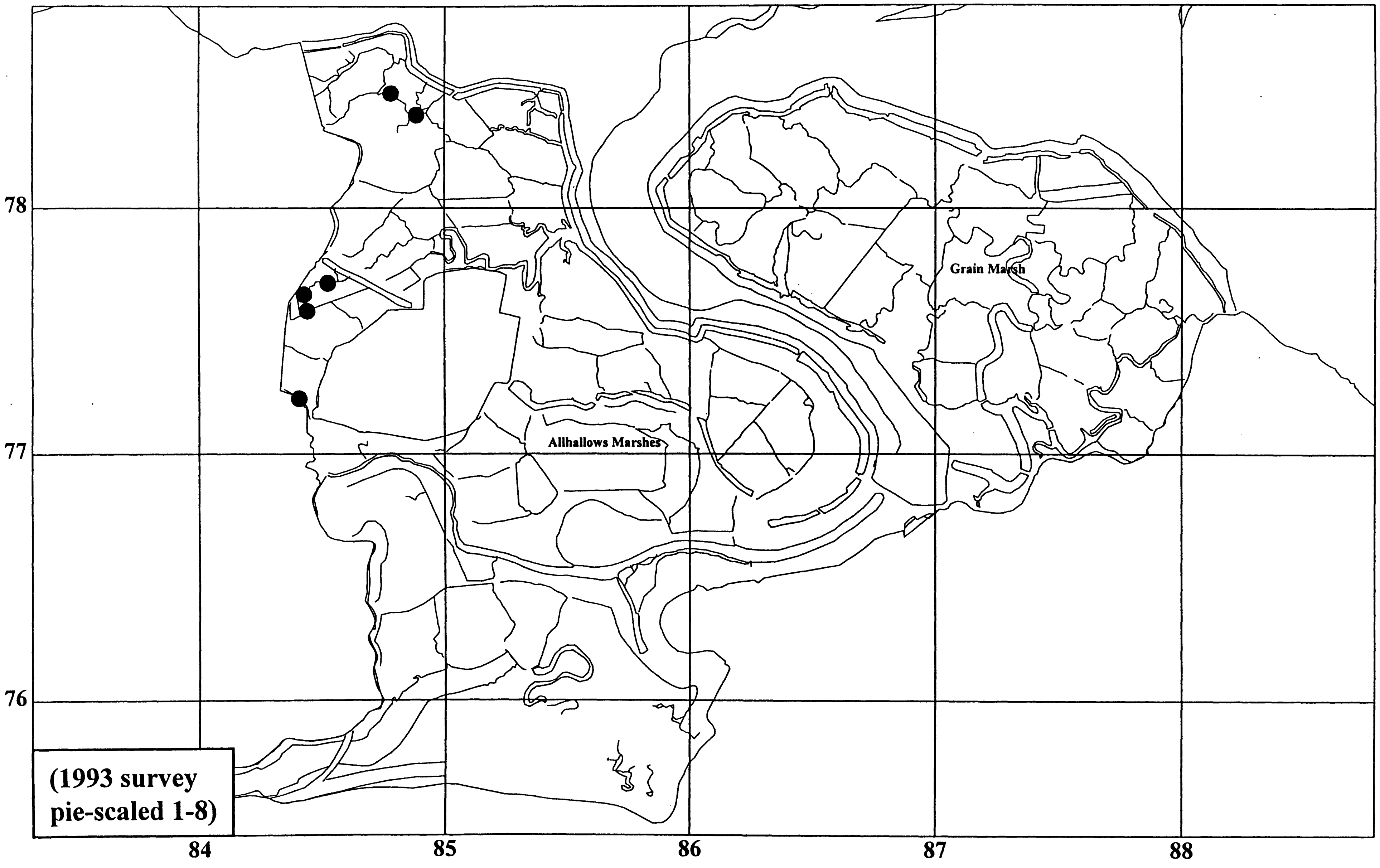
Ranunculus trichophyllus



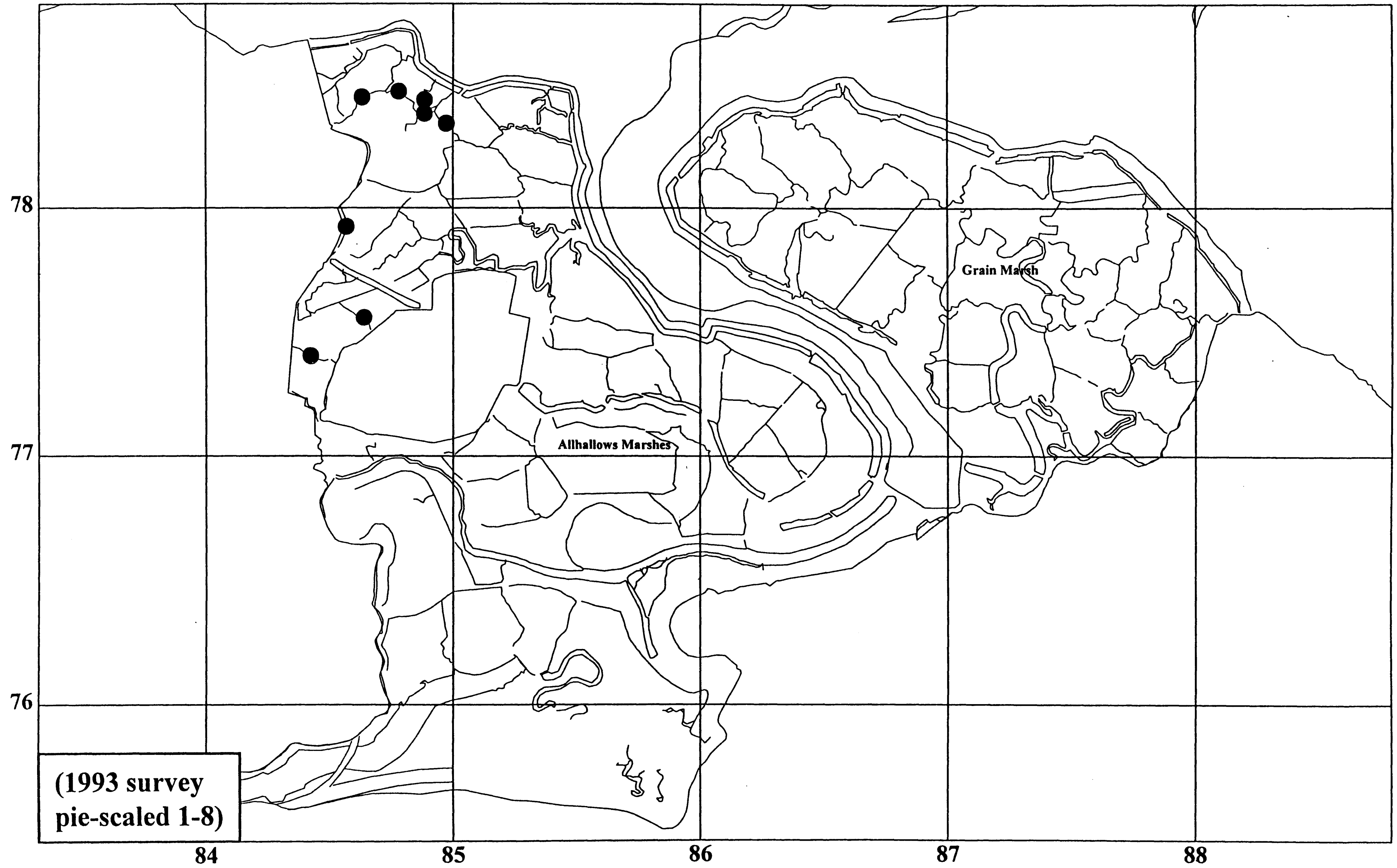
Zannichellia palustris



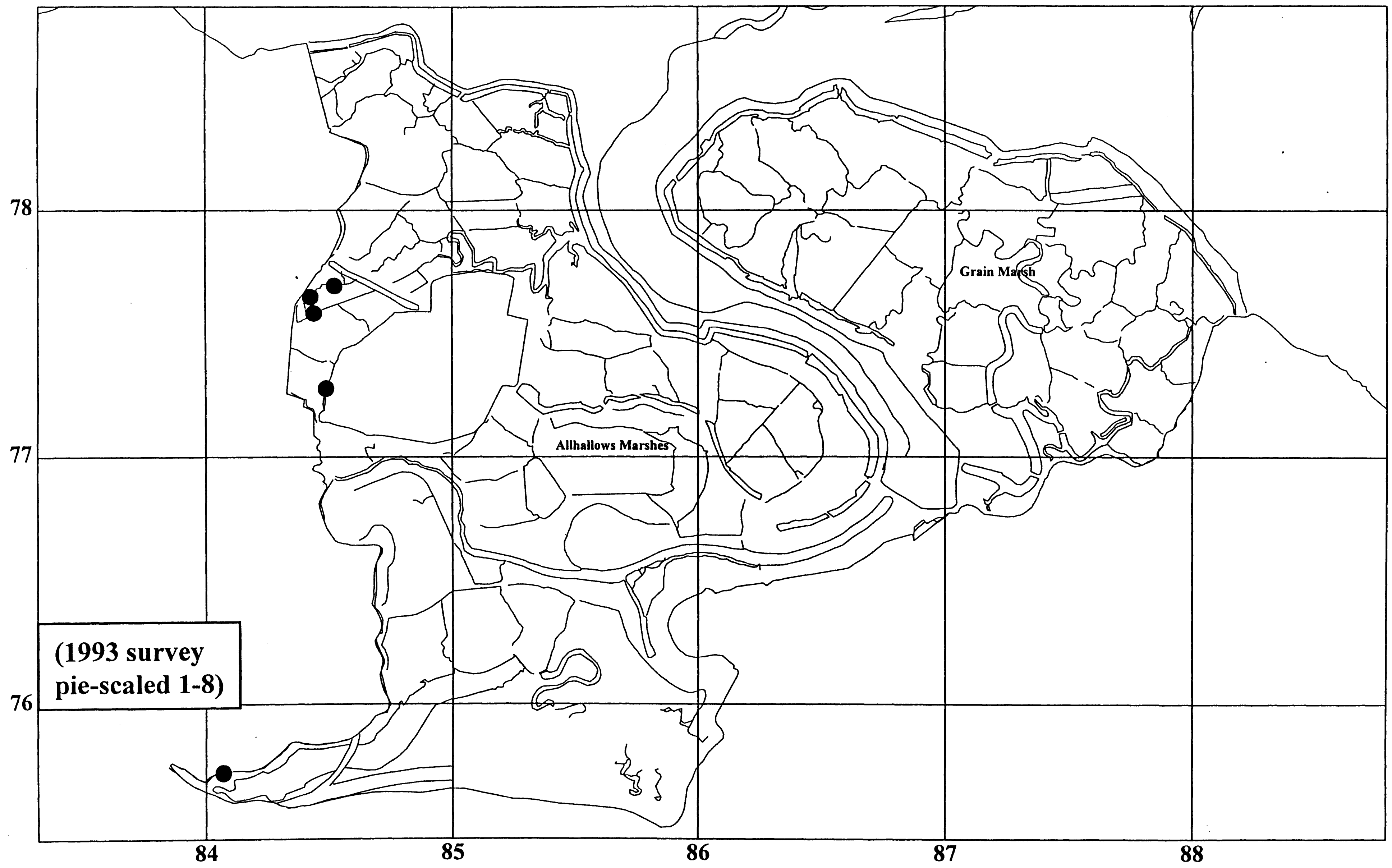
Alisma plantago-aquatica



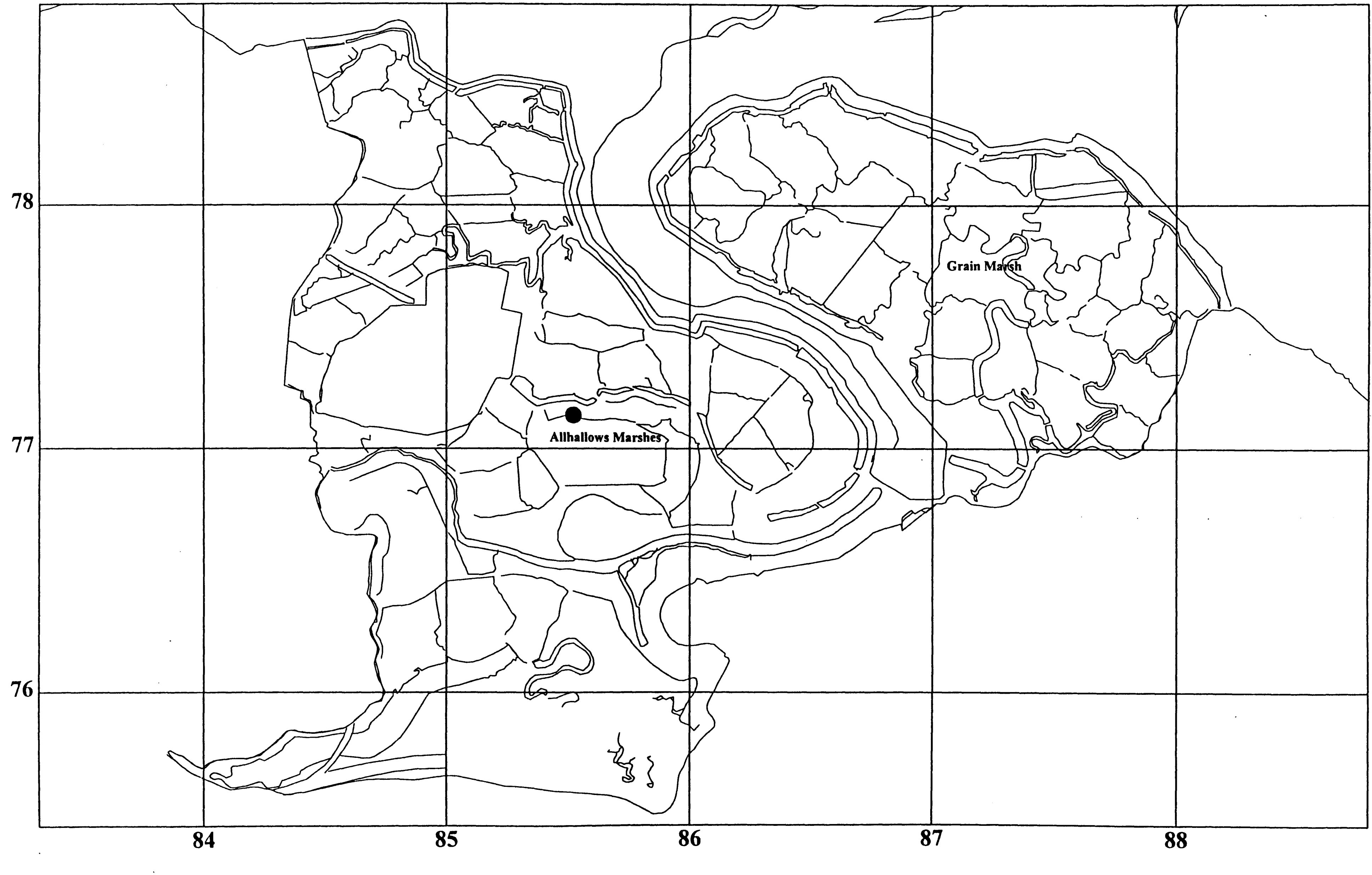
Apium nodiflorum



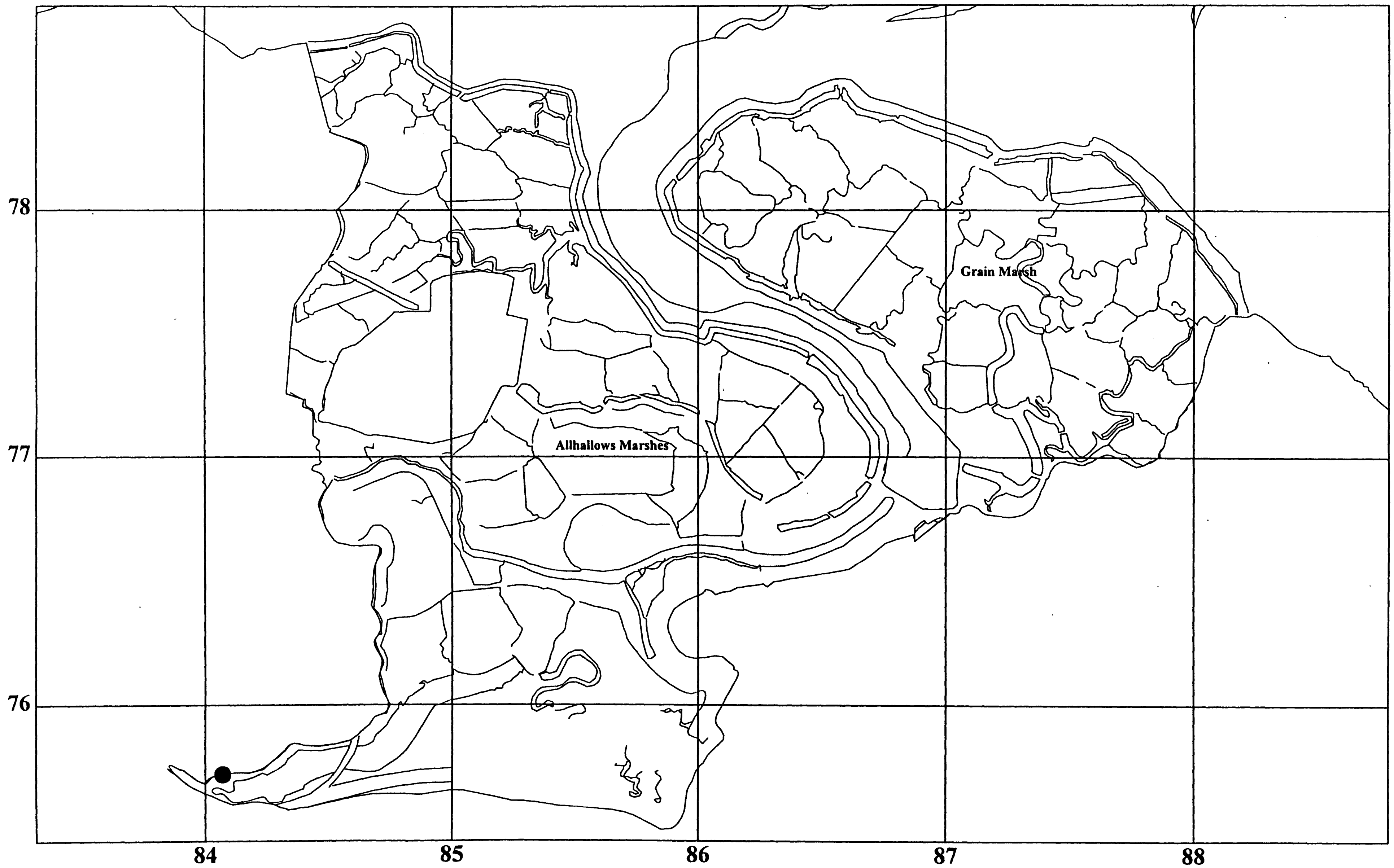
Berula erecta



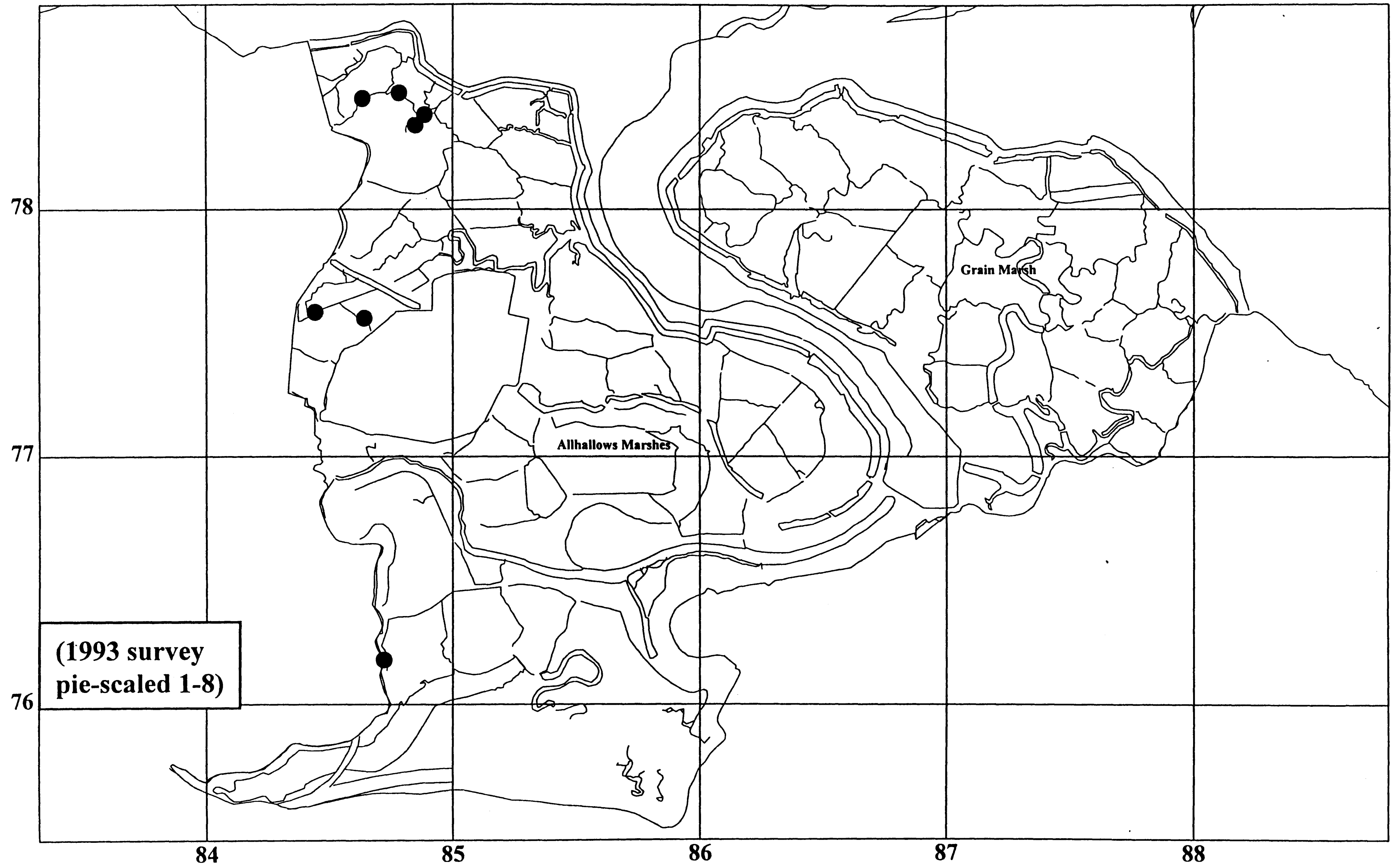
Butomus umbellatus



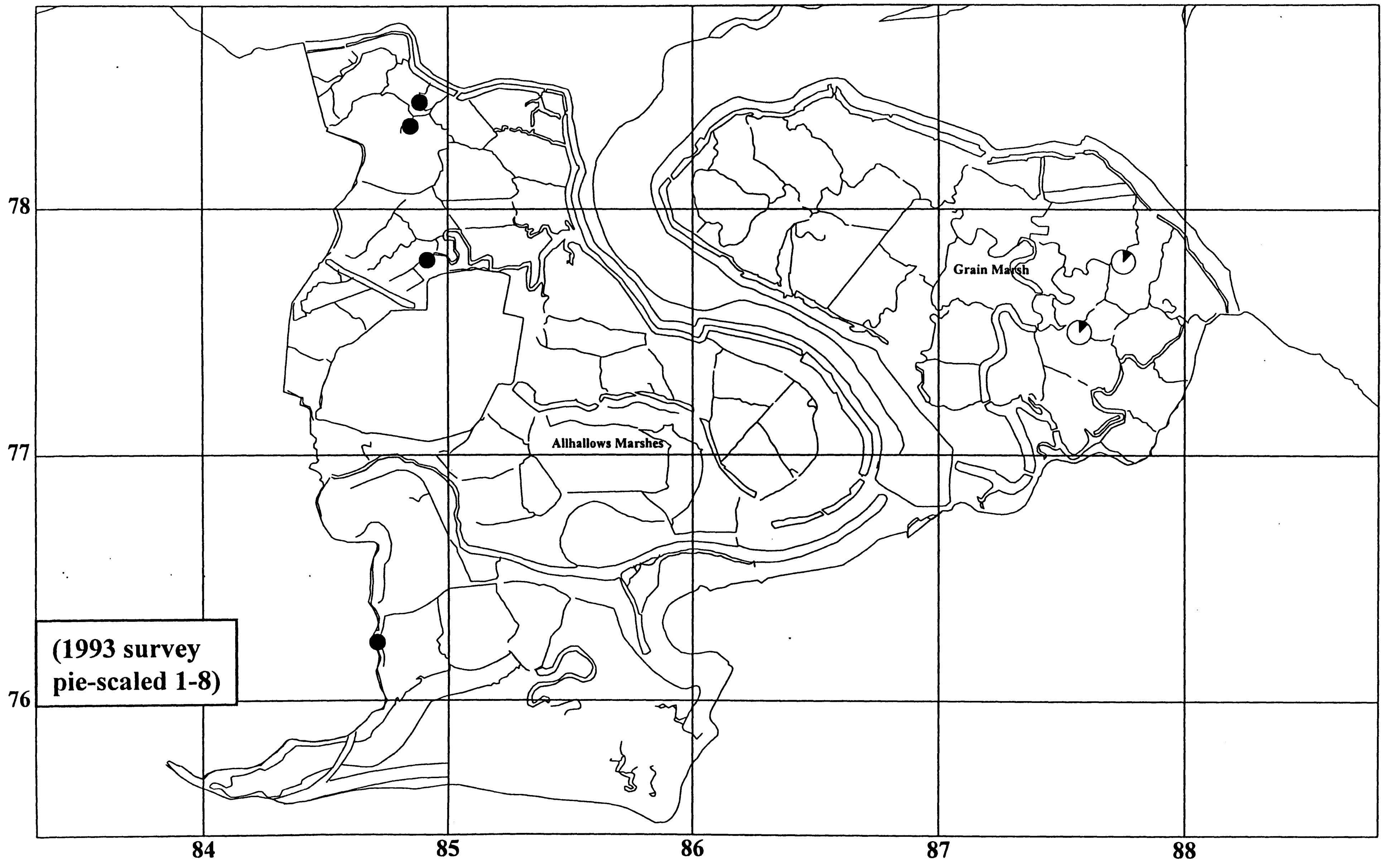
Carex riparia



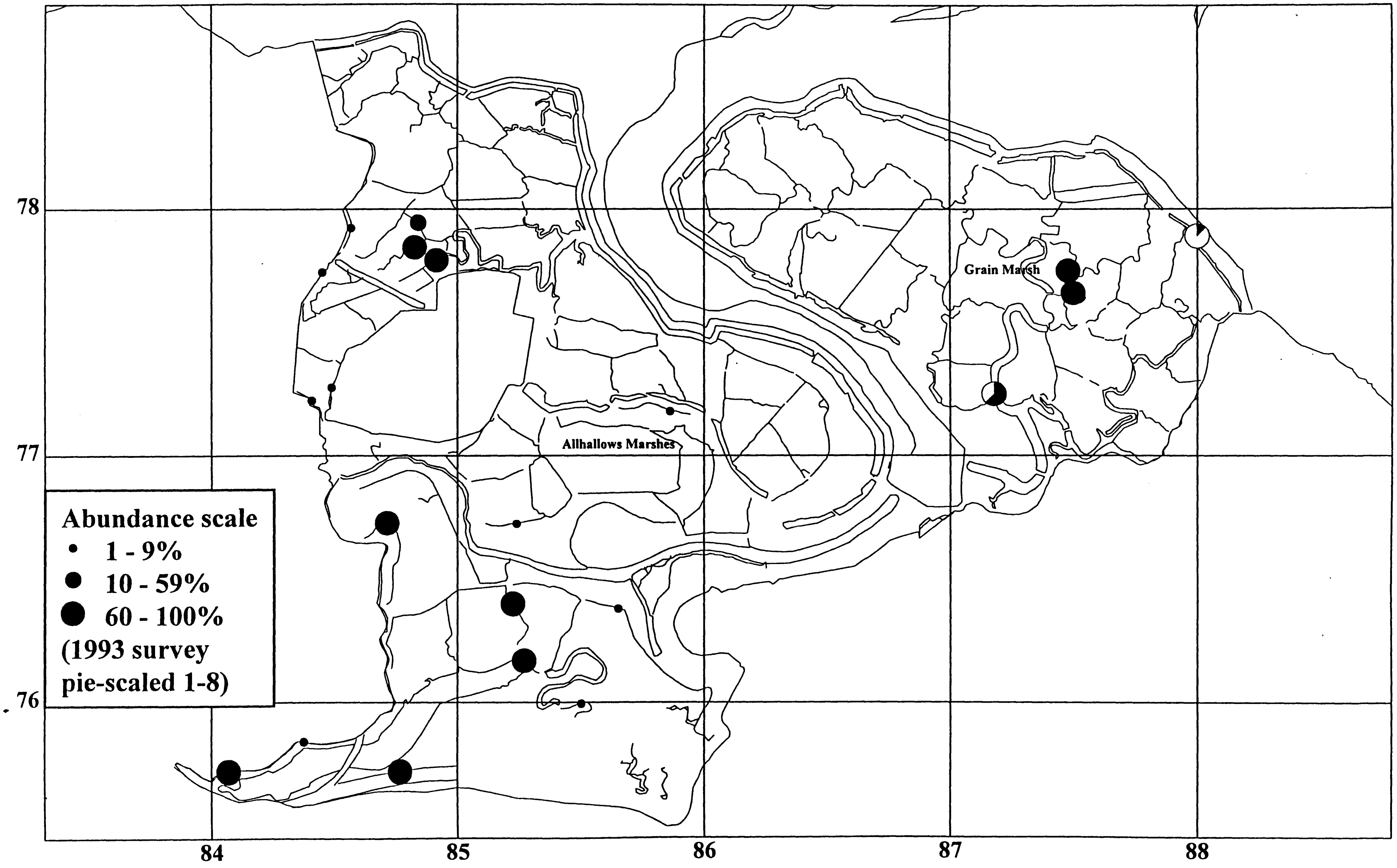
Nasturtium officinale agg



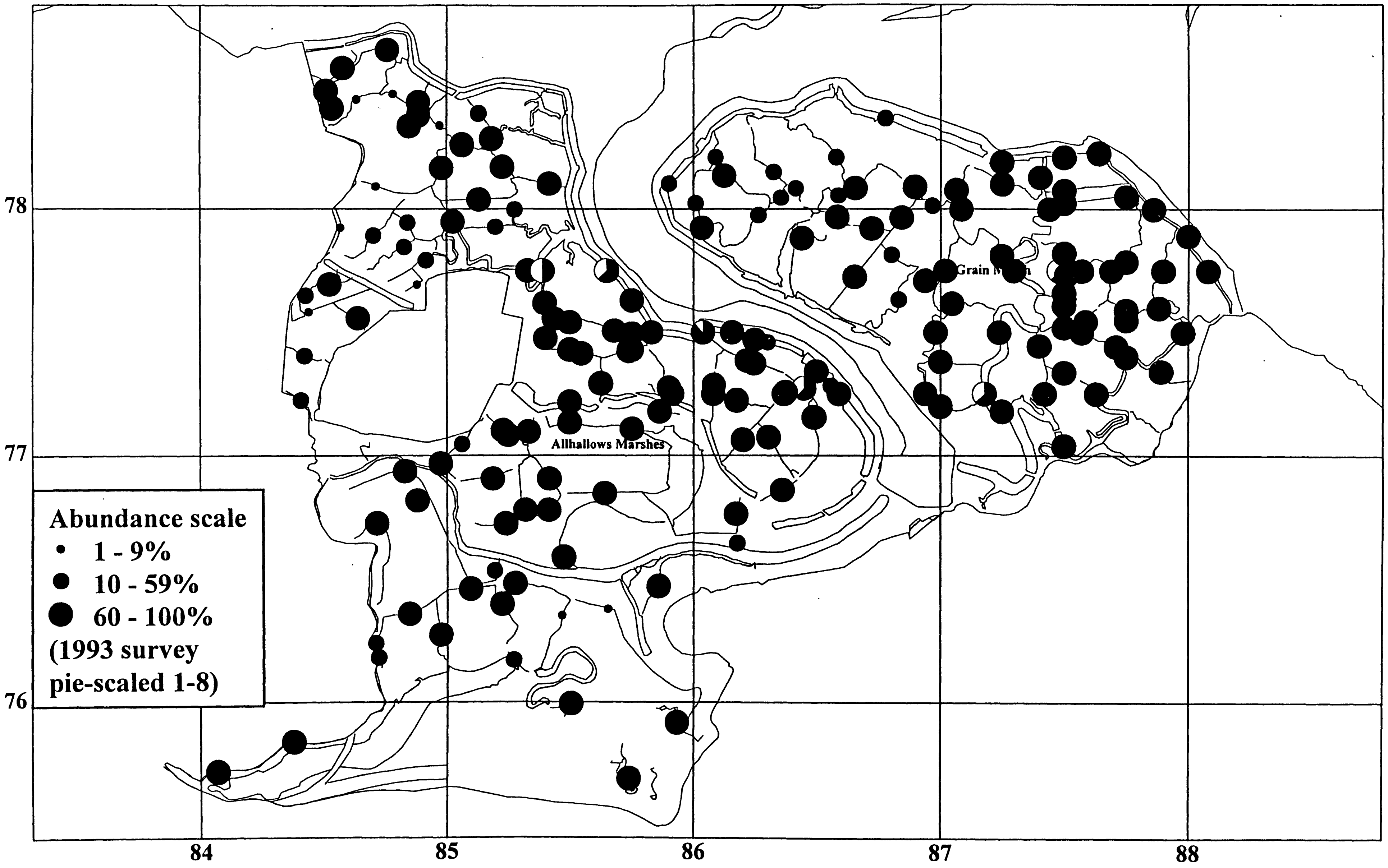
Oenanthe fistulosa



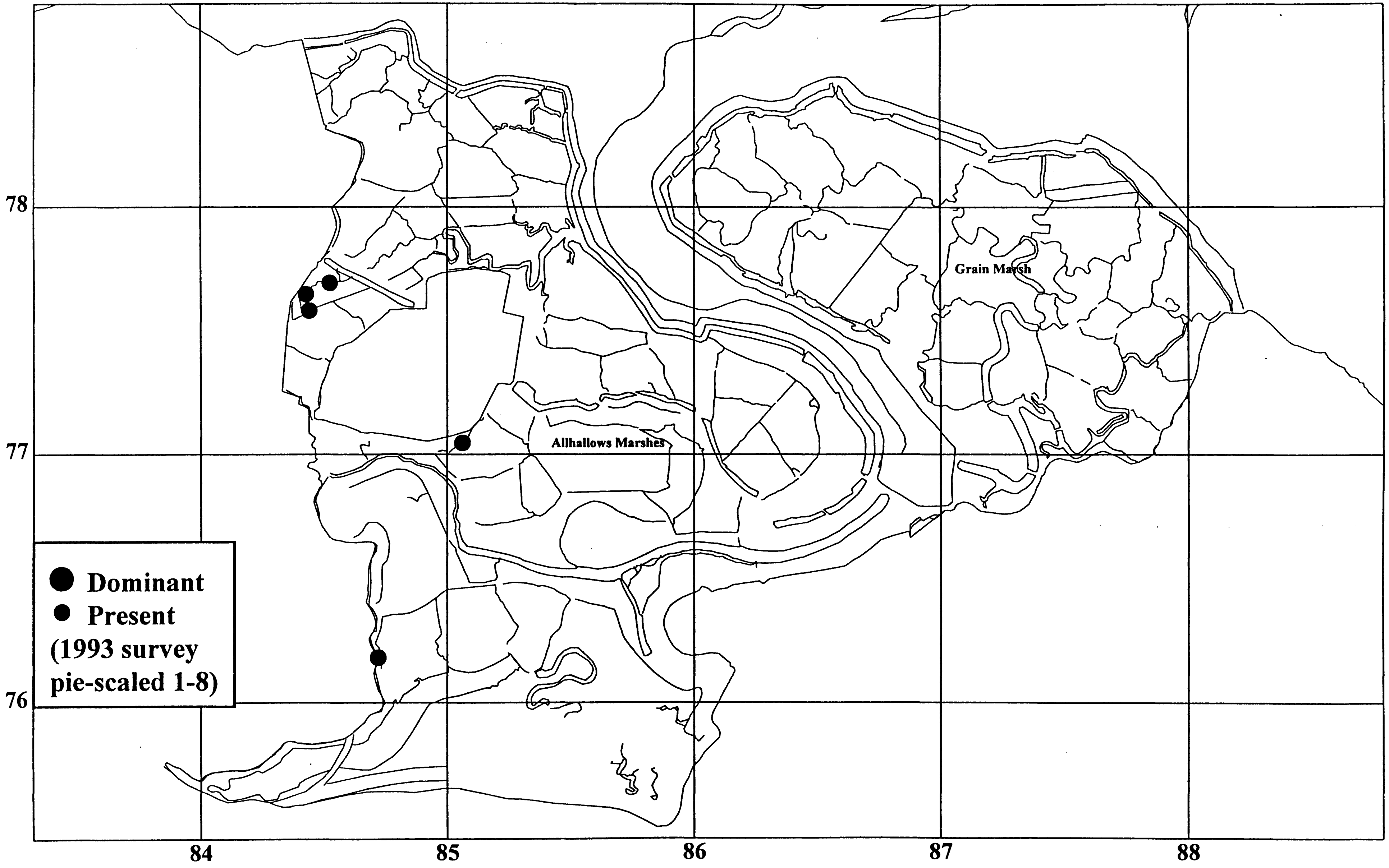
Phragmites australis



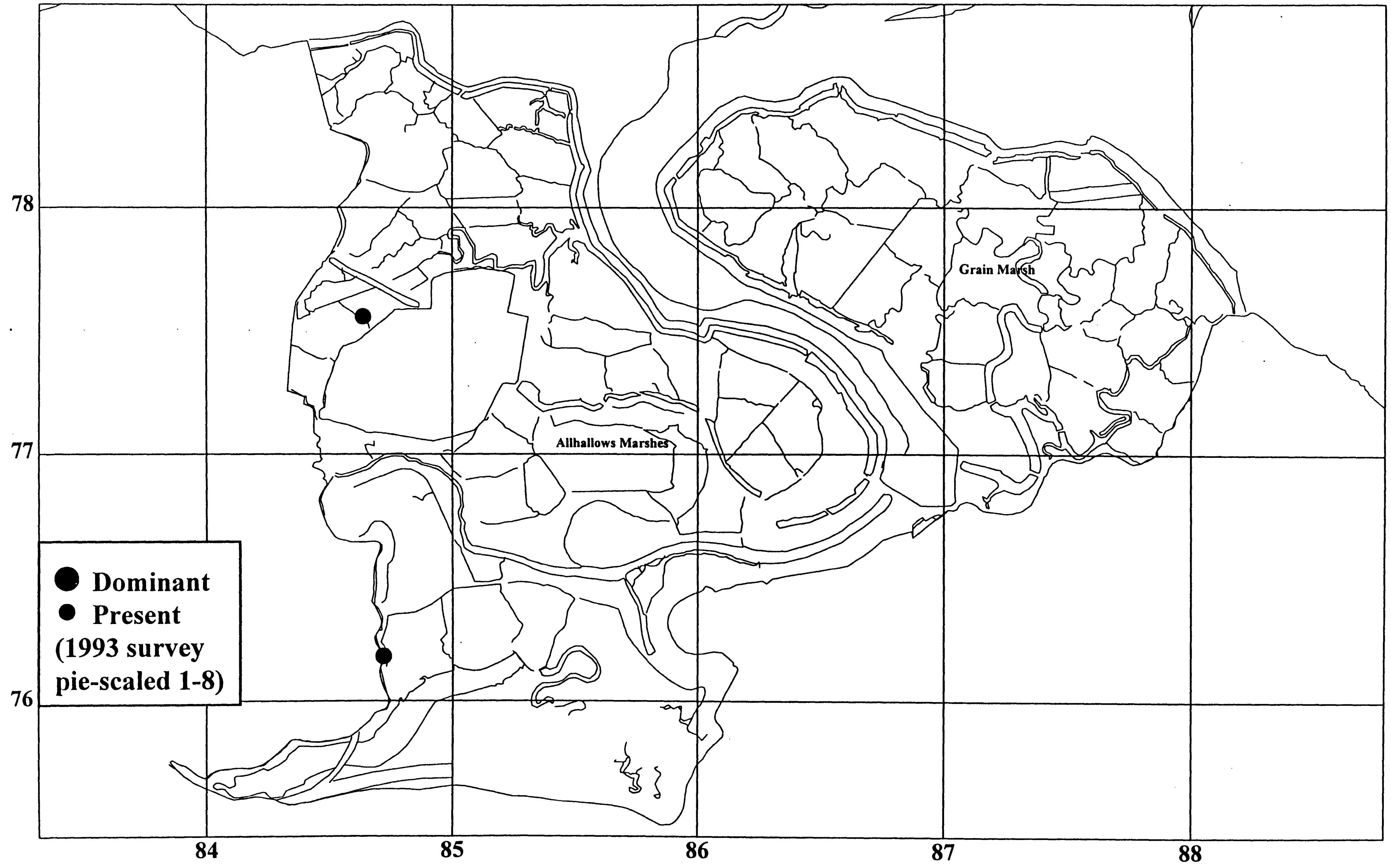
Scirpus maritimus



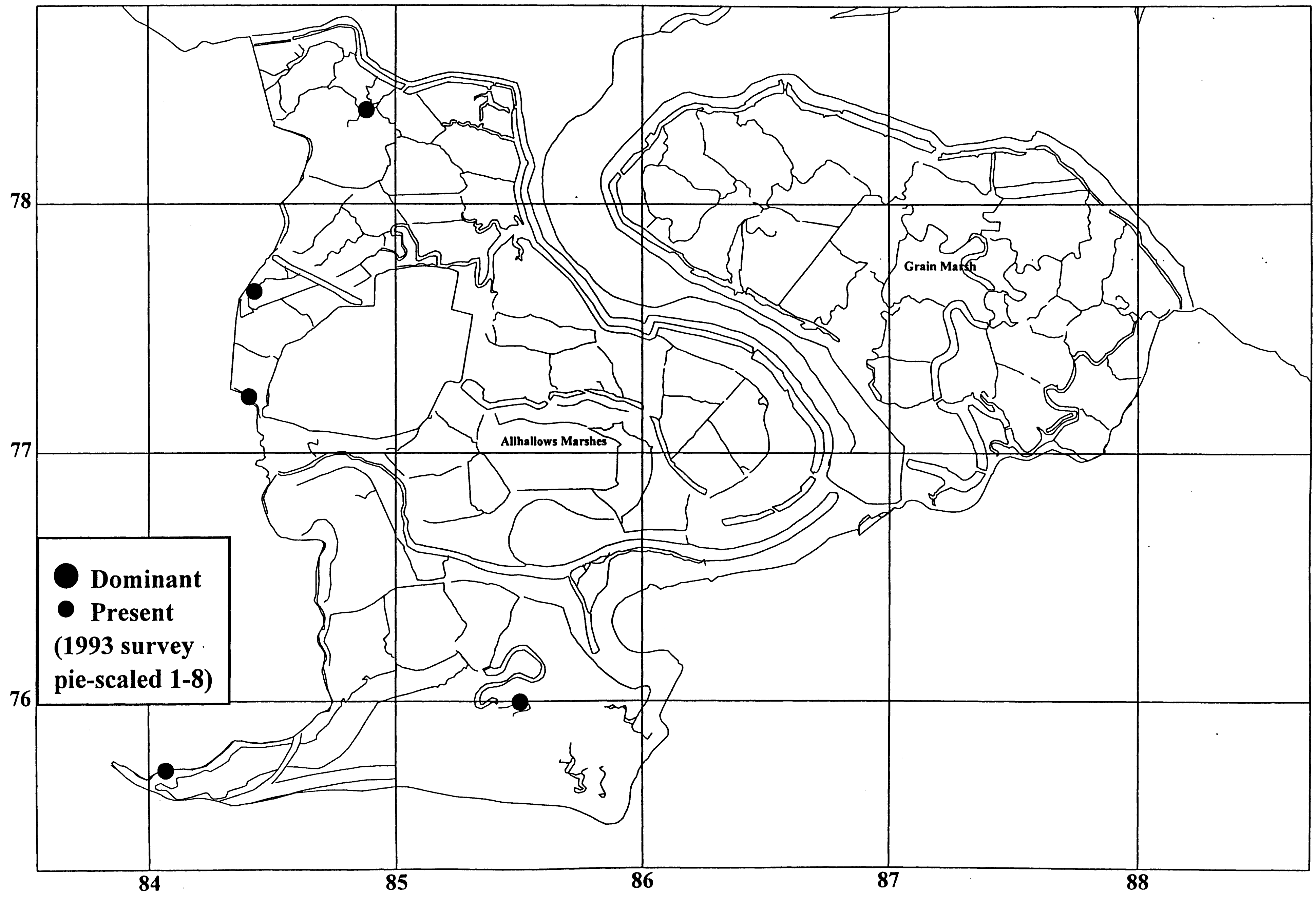
Sparganium erectum



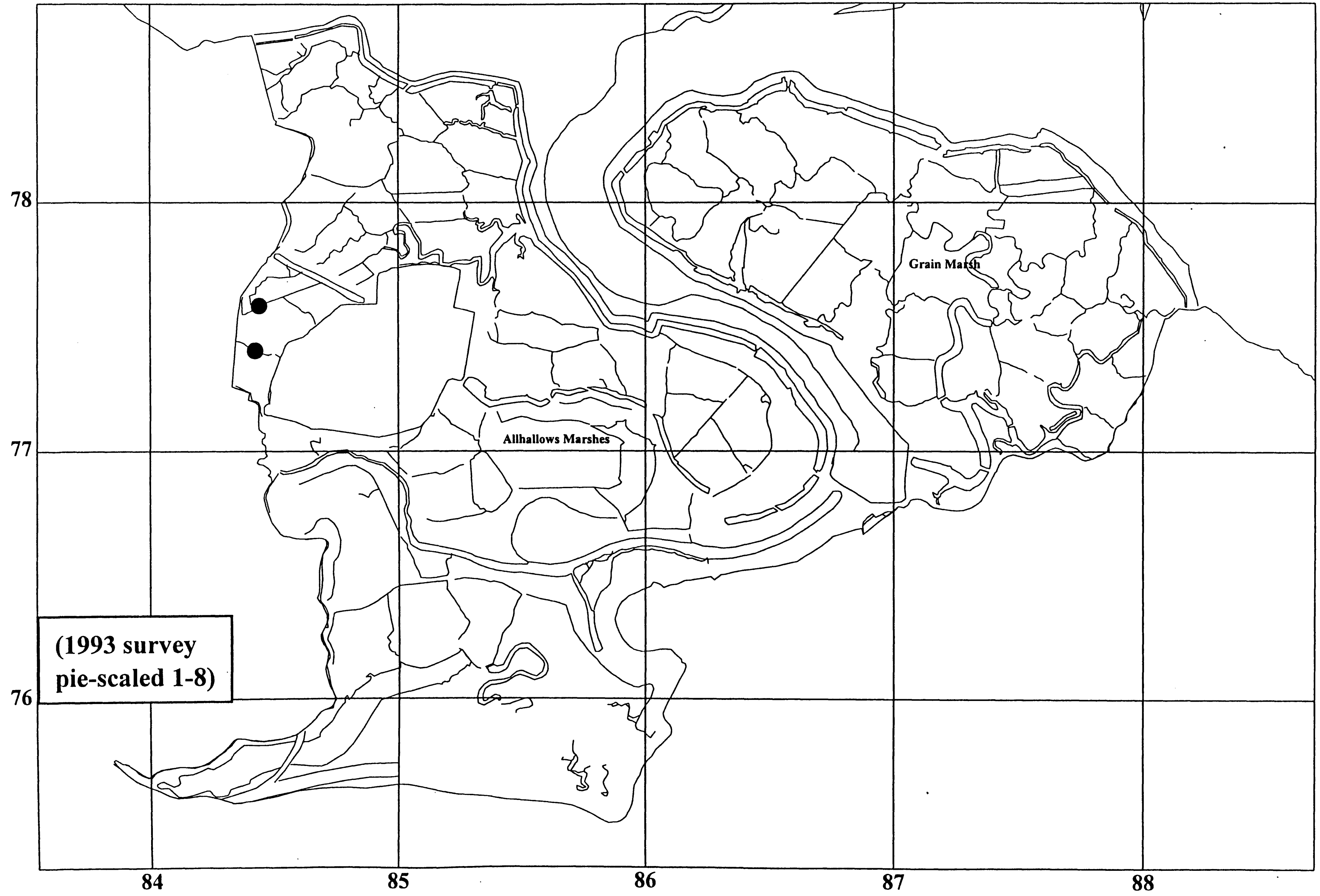
Typha angustifolia



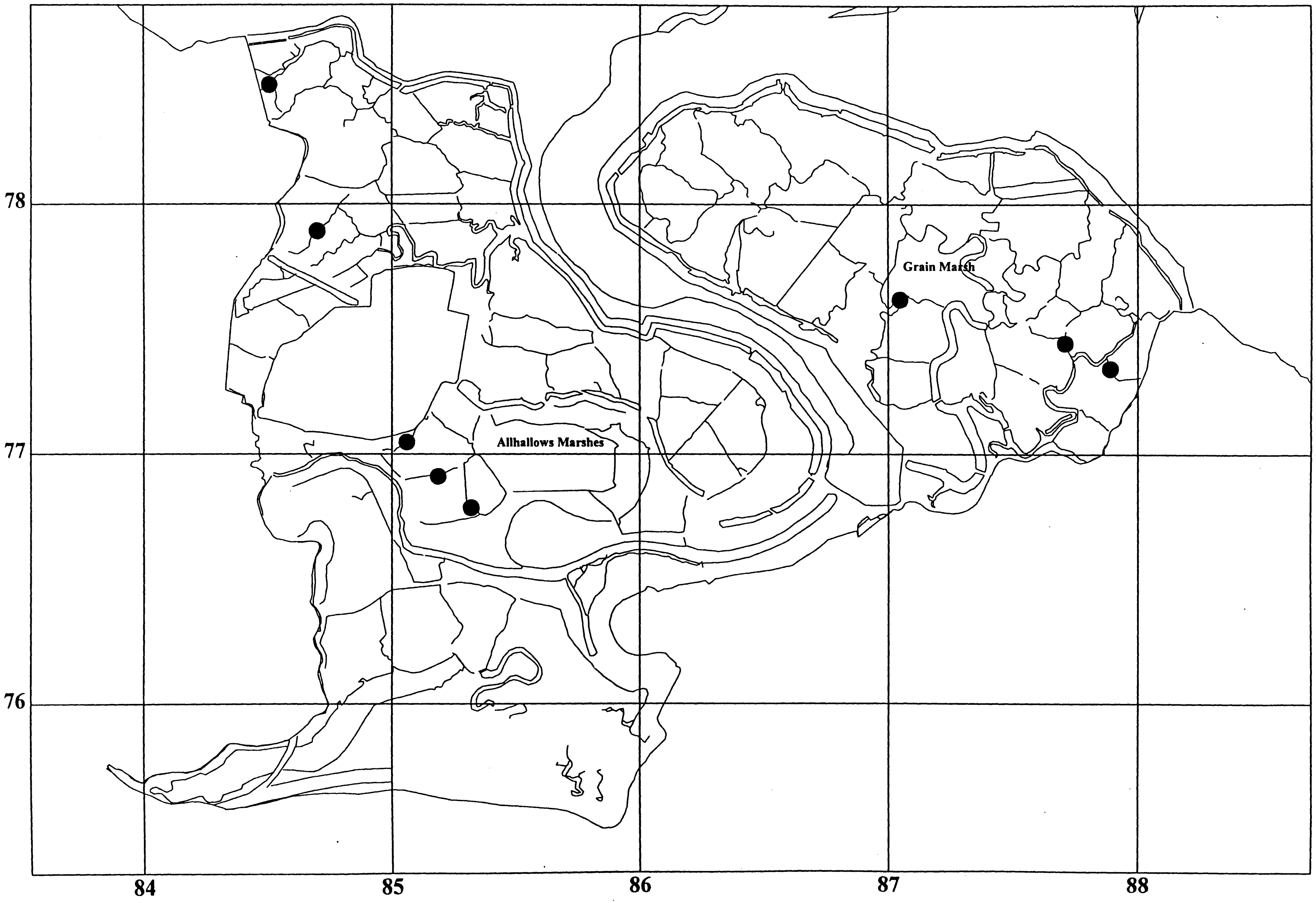
Typha latifolia



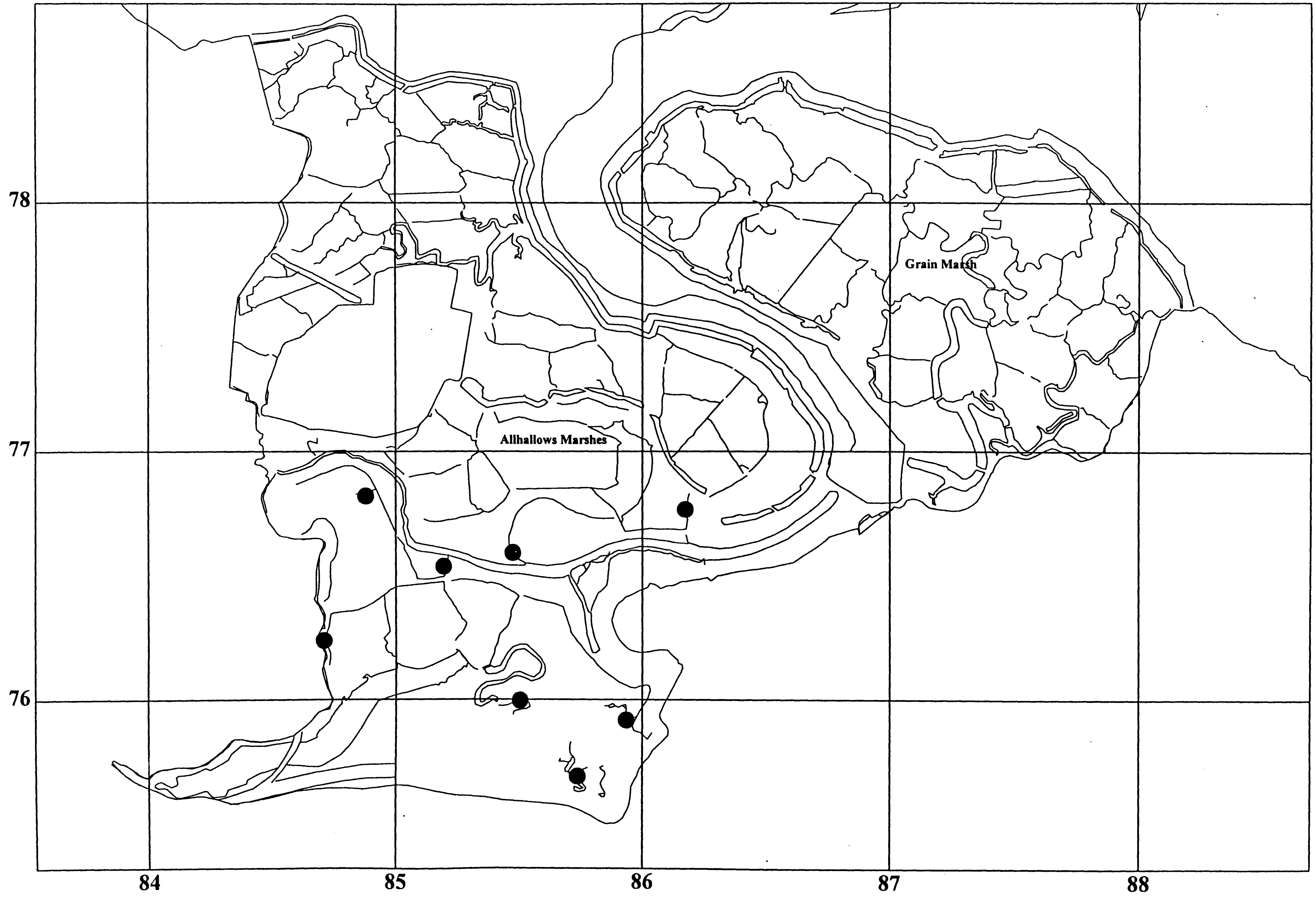
Veronica catenata



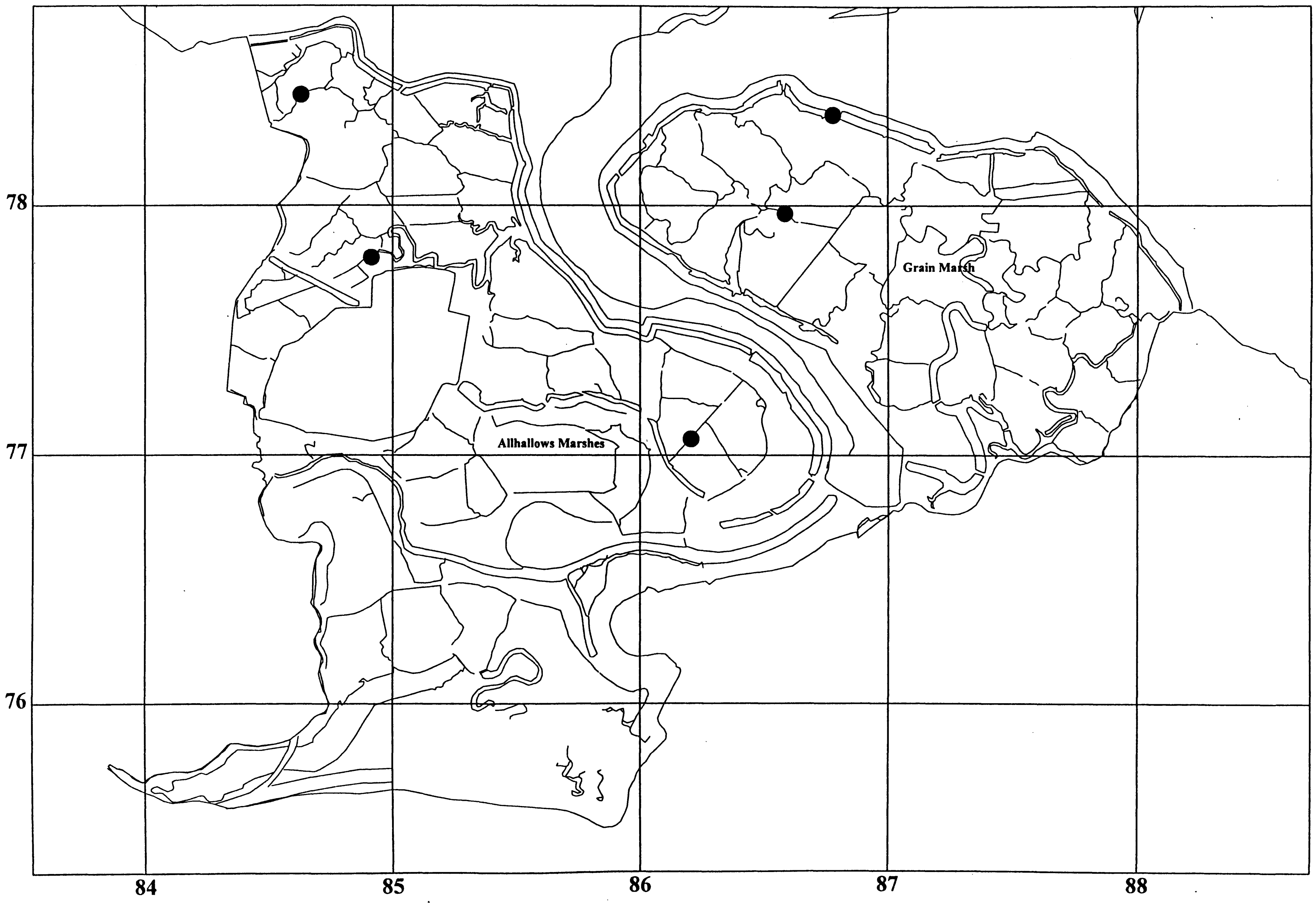
Carex divisa



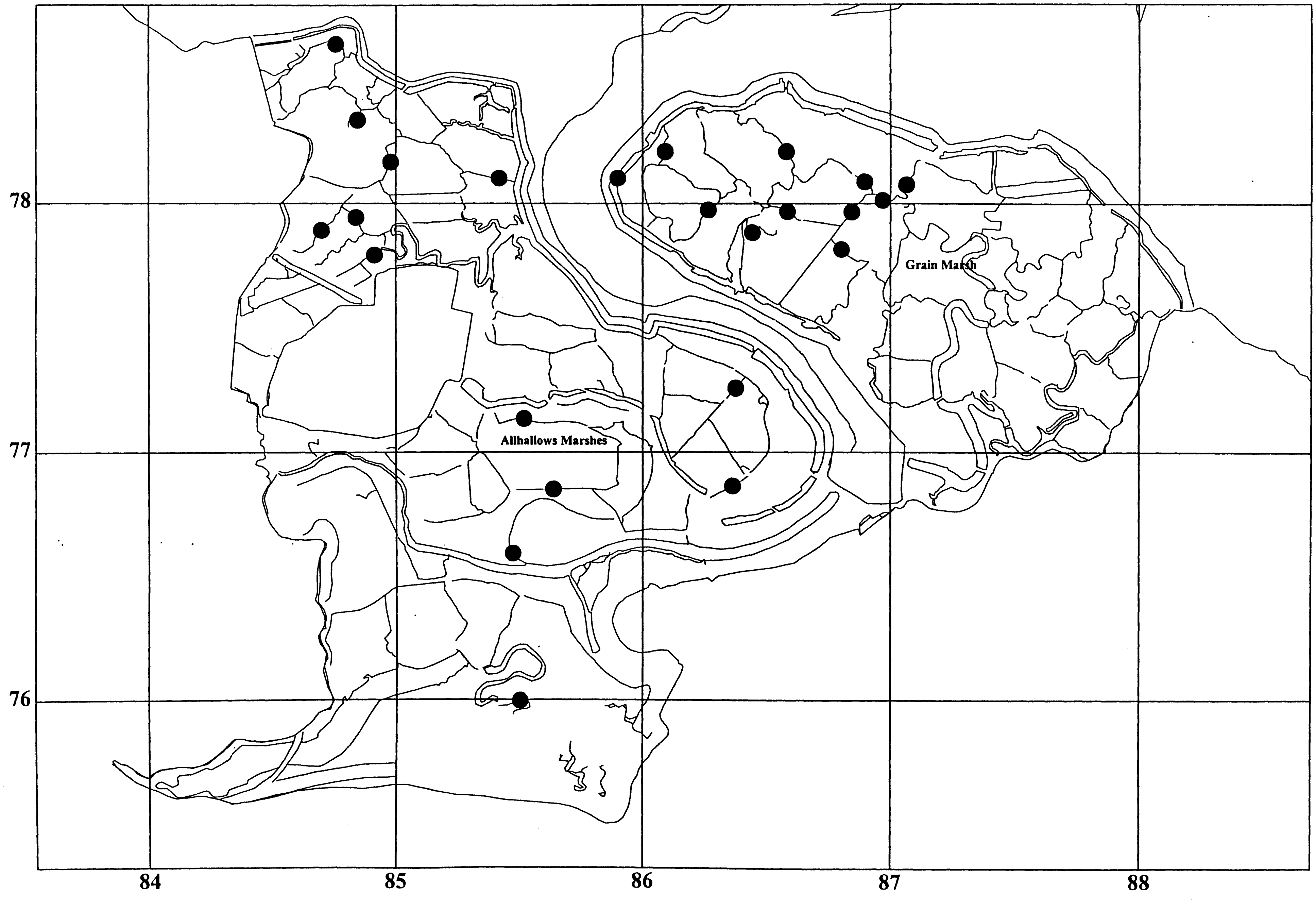
Chenopodium chenopodioides



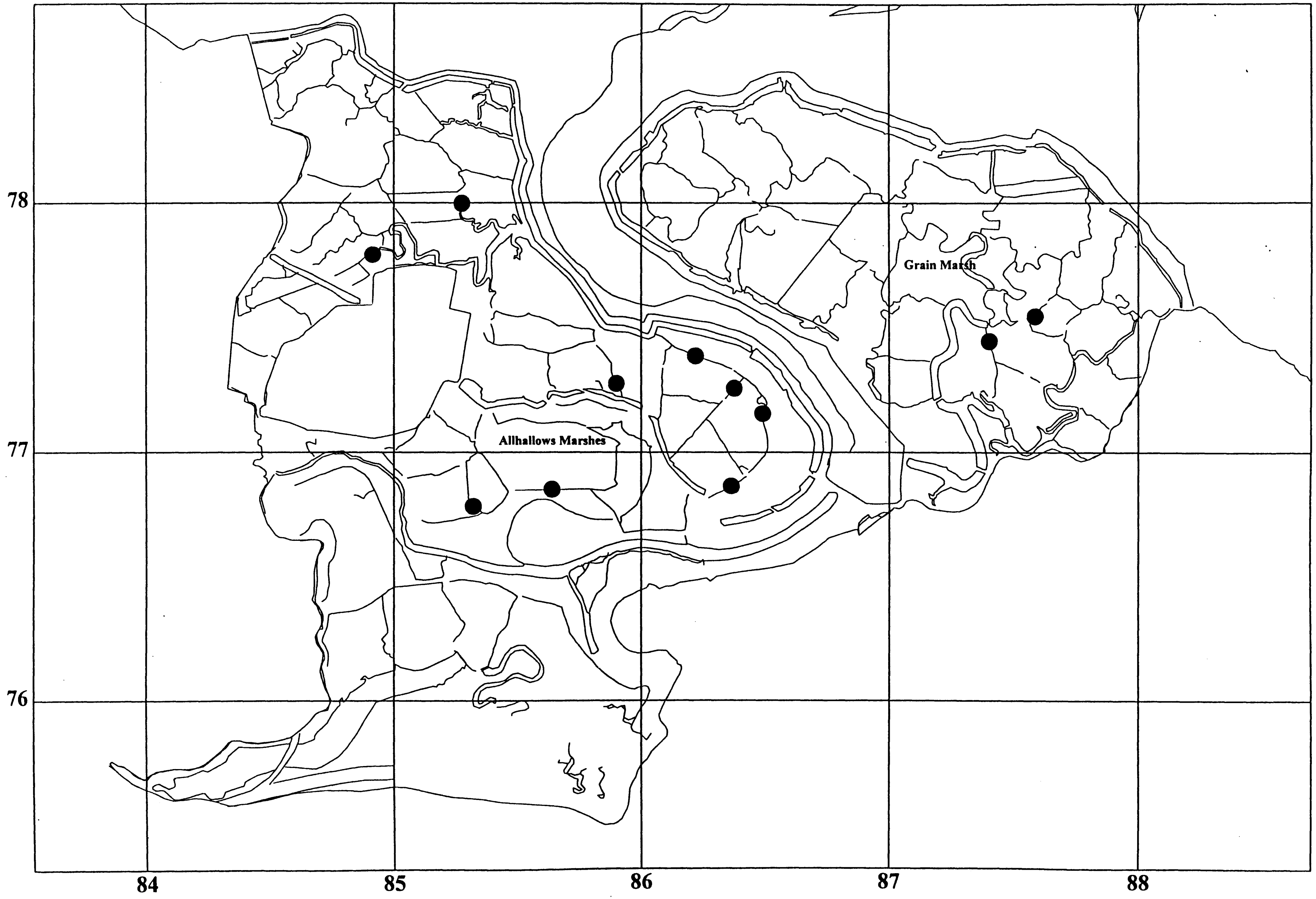
Glaux maritima



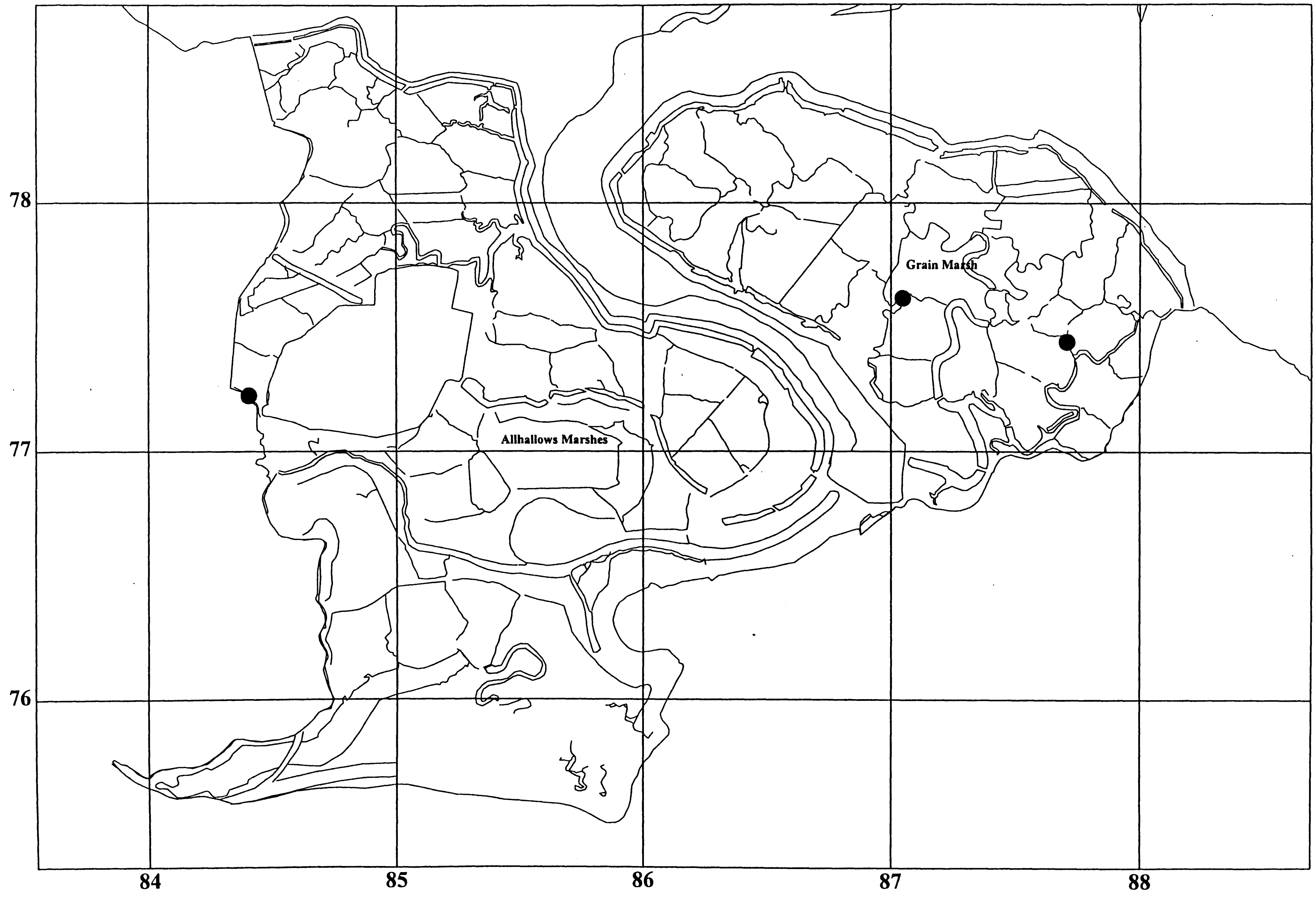
Juncus gerardi



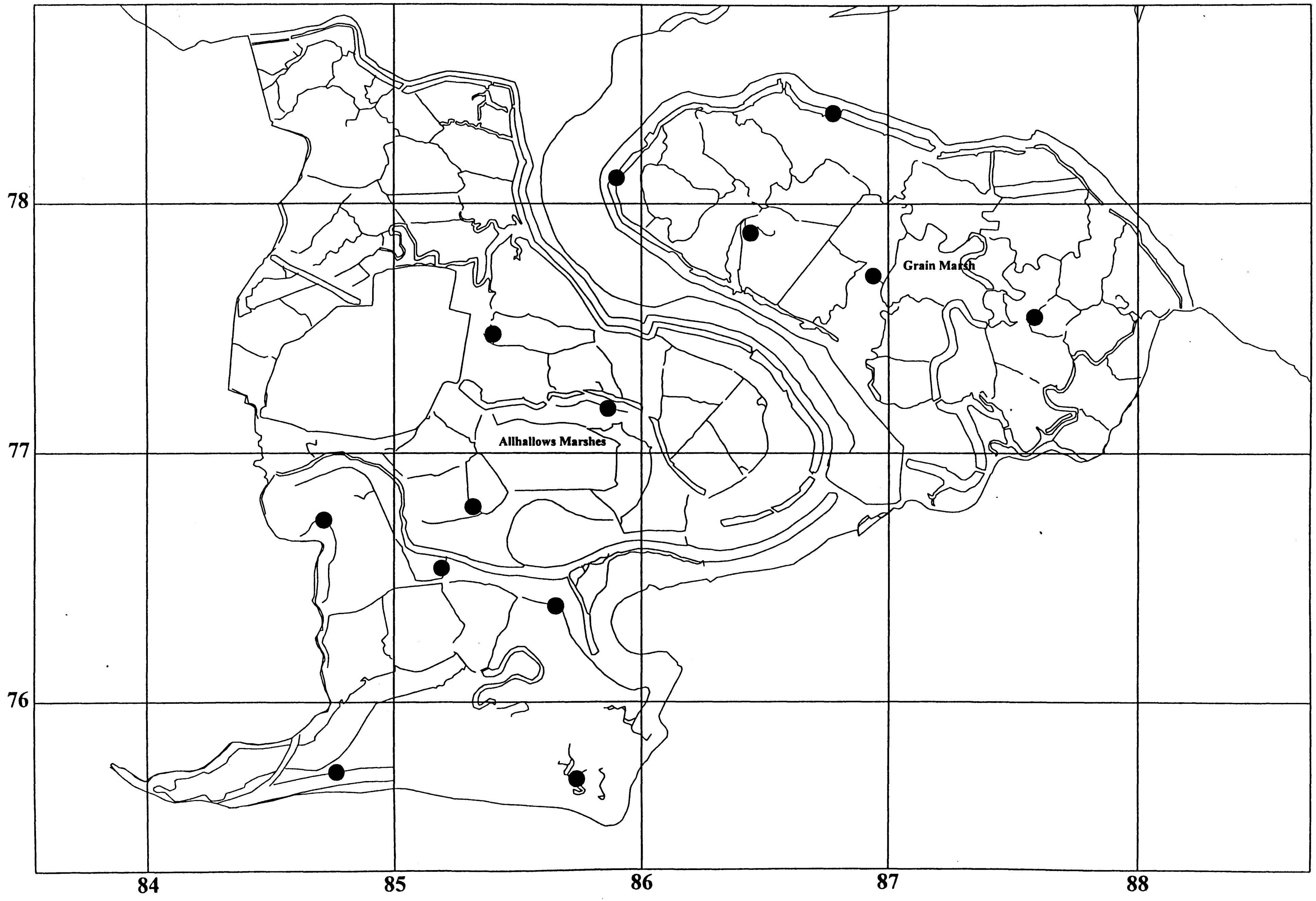
Juncus maritima



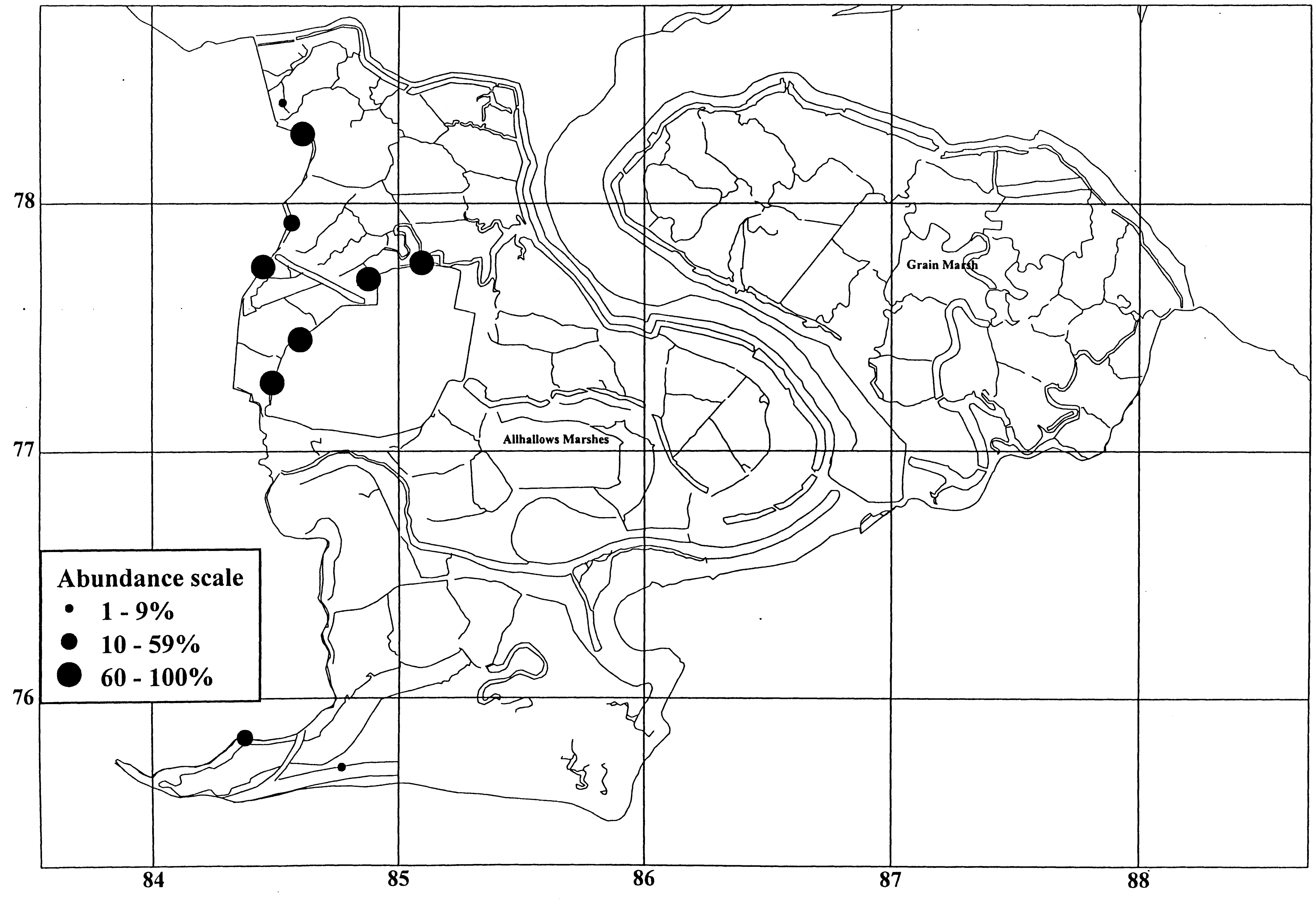
Oenanthe lachenalii



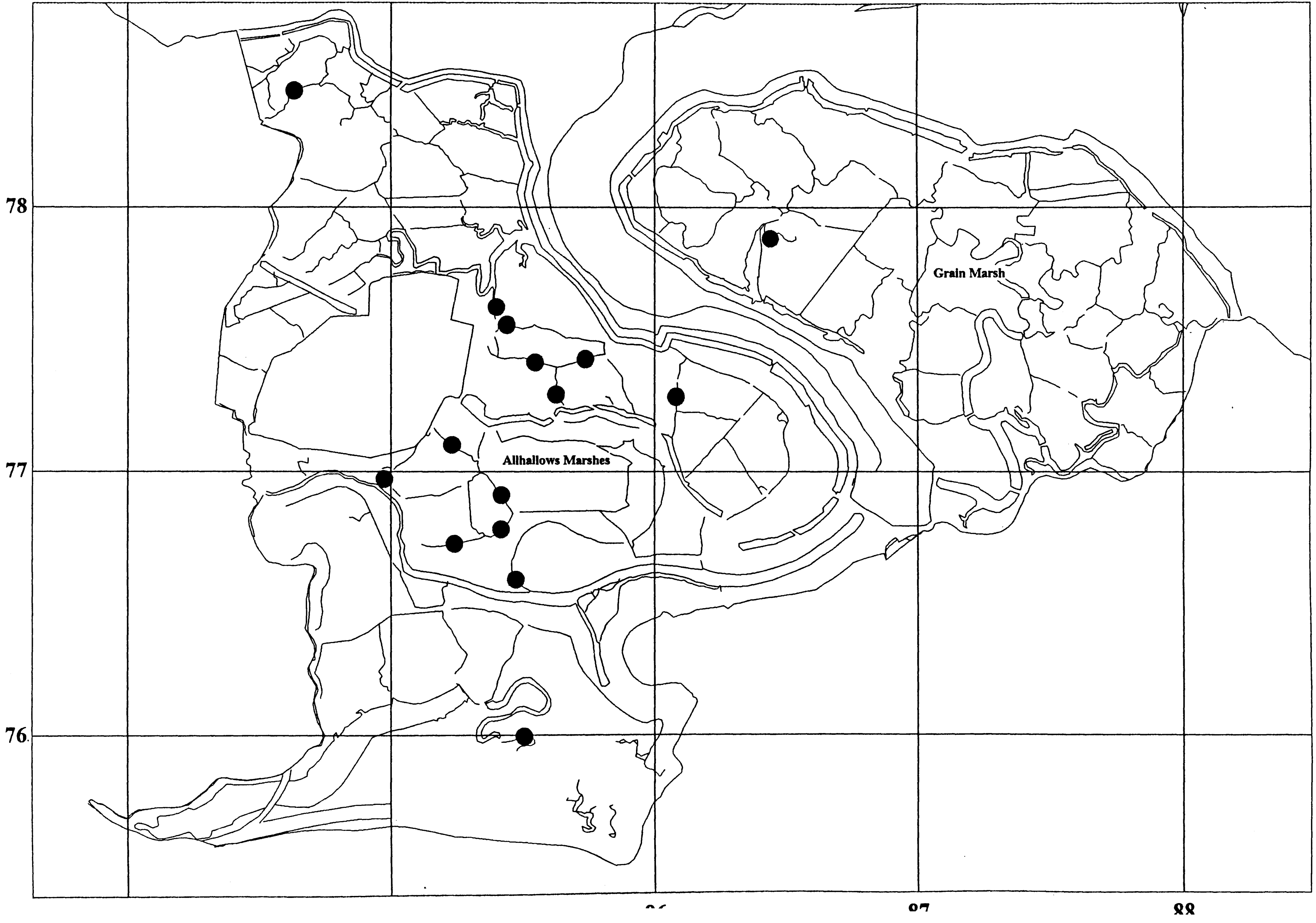
Polypogon monspeliensis



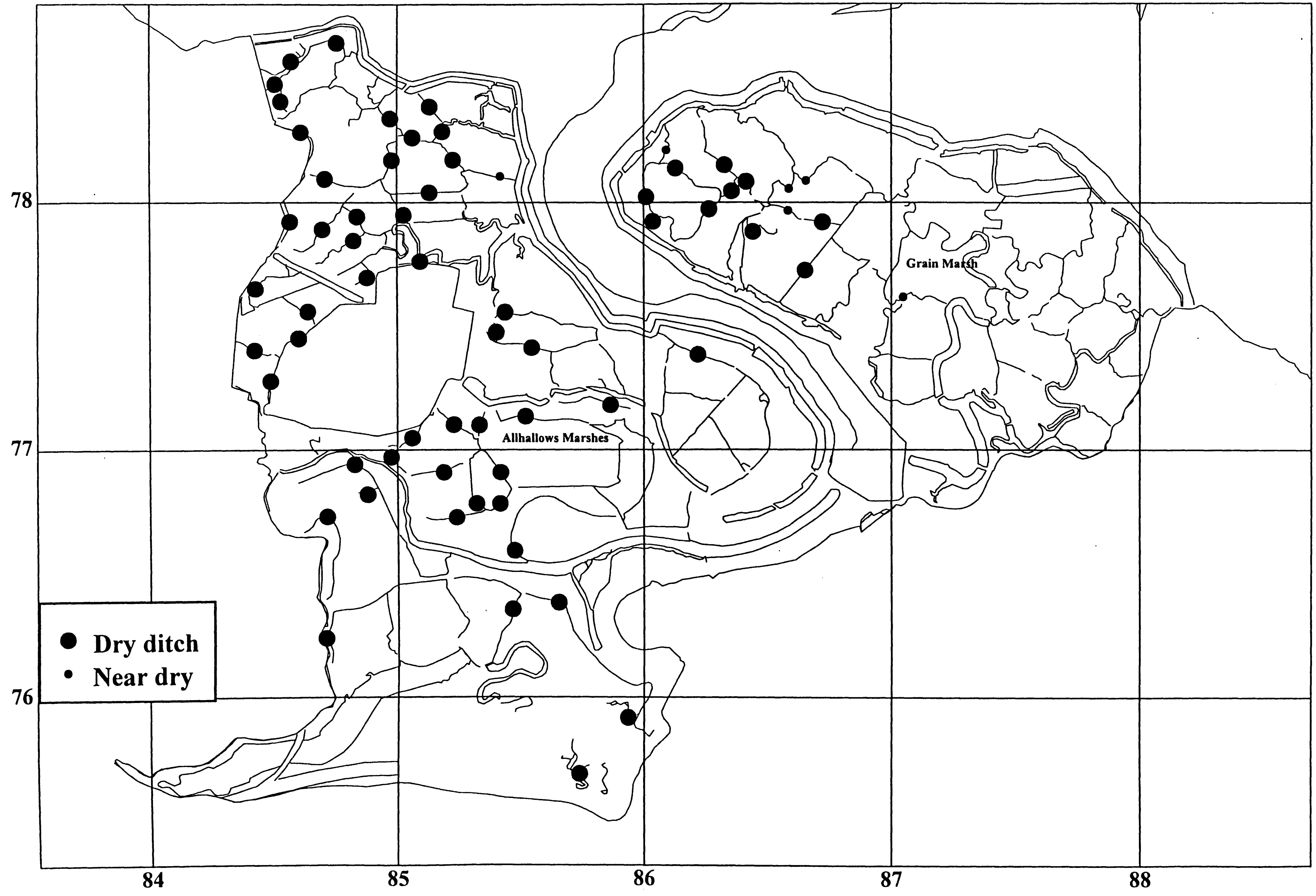
Scrub cover


Grain Marsh
Allhallows Marshes
Abundance scale
● 1 - 9%
● 10 - 59%
● 60 - 100%
78
77
76
84
85
86
87
88

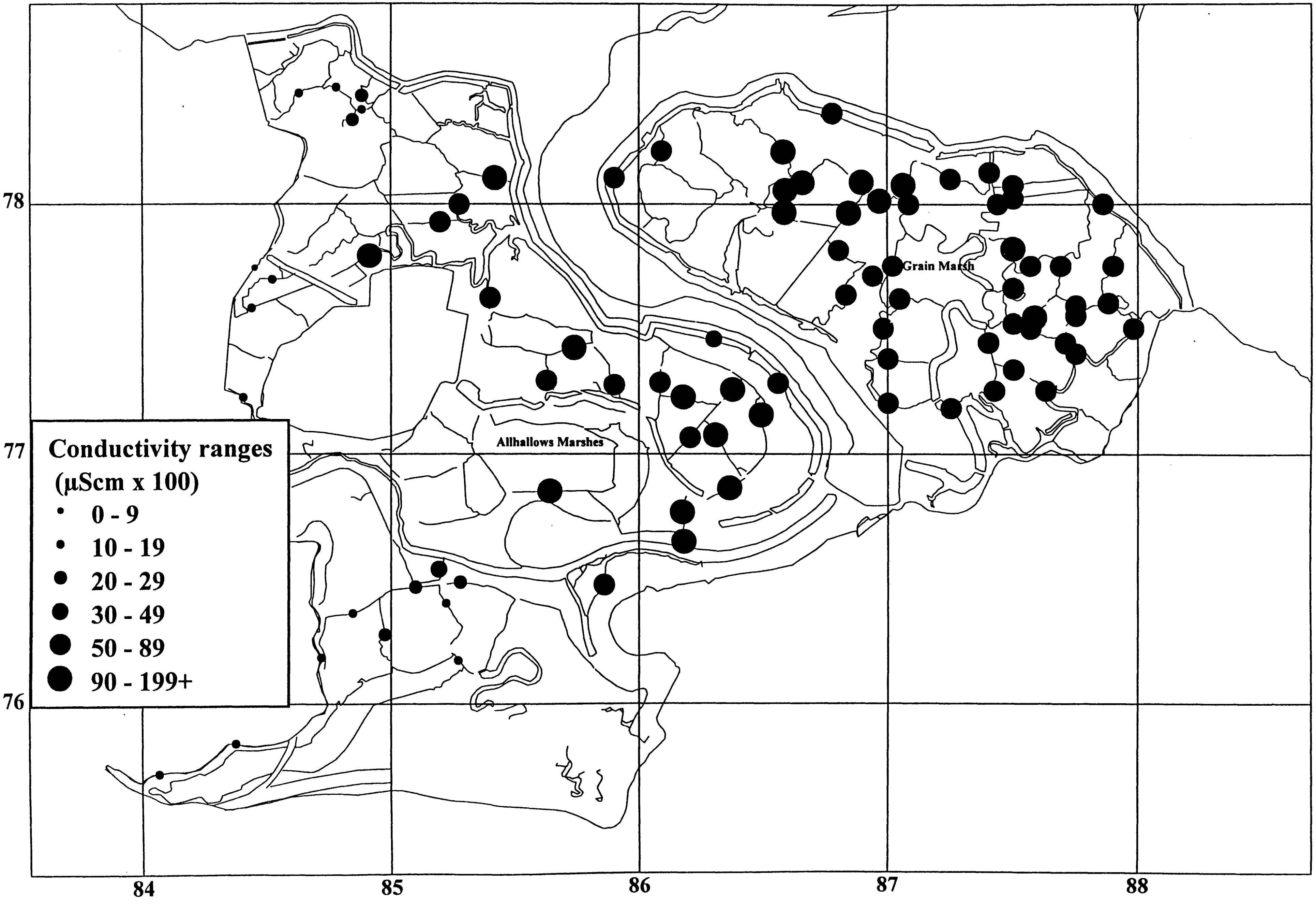
Ditch choked



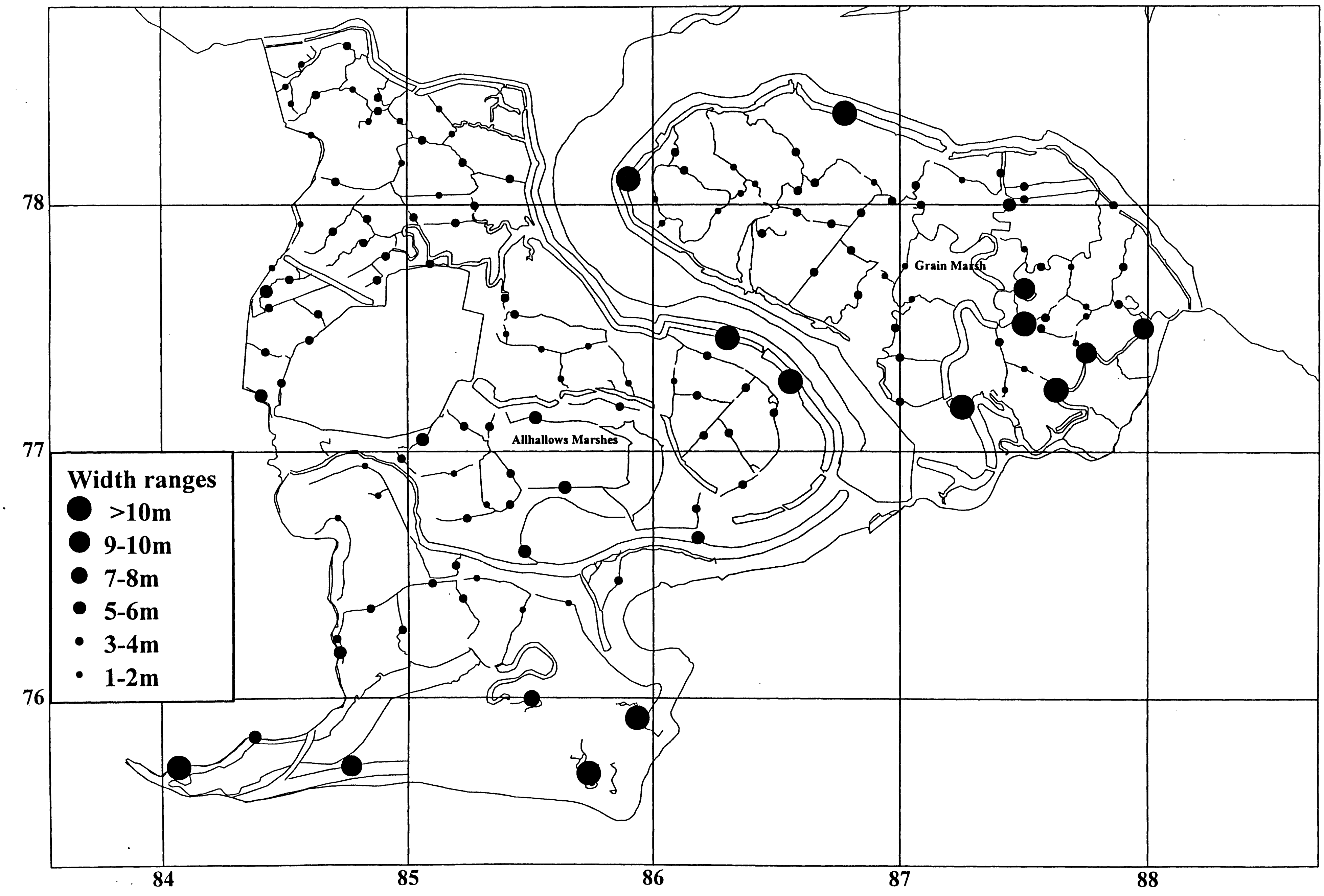
Ditch dry


78
77
76
84
85
86
87
88
Grain Marsh
Allhallows Marshes
● Dry ditch
• Near dry

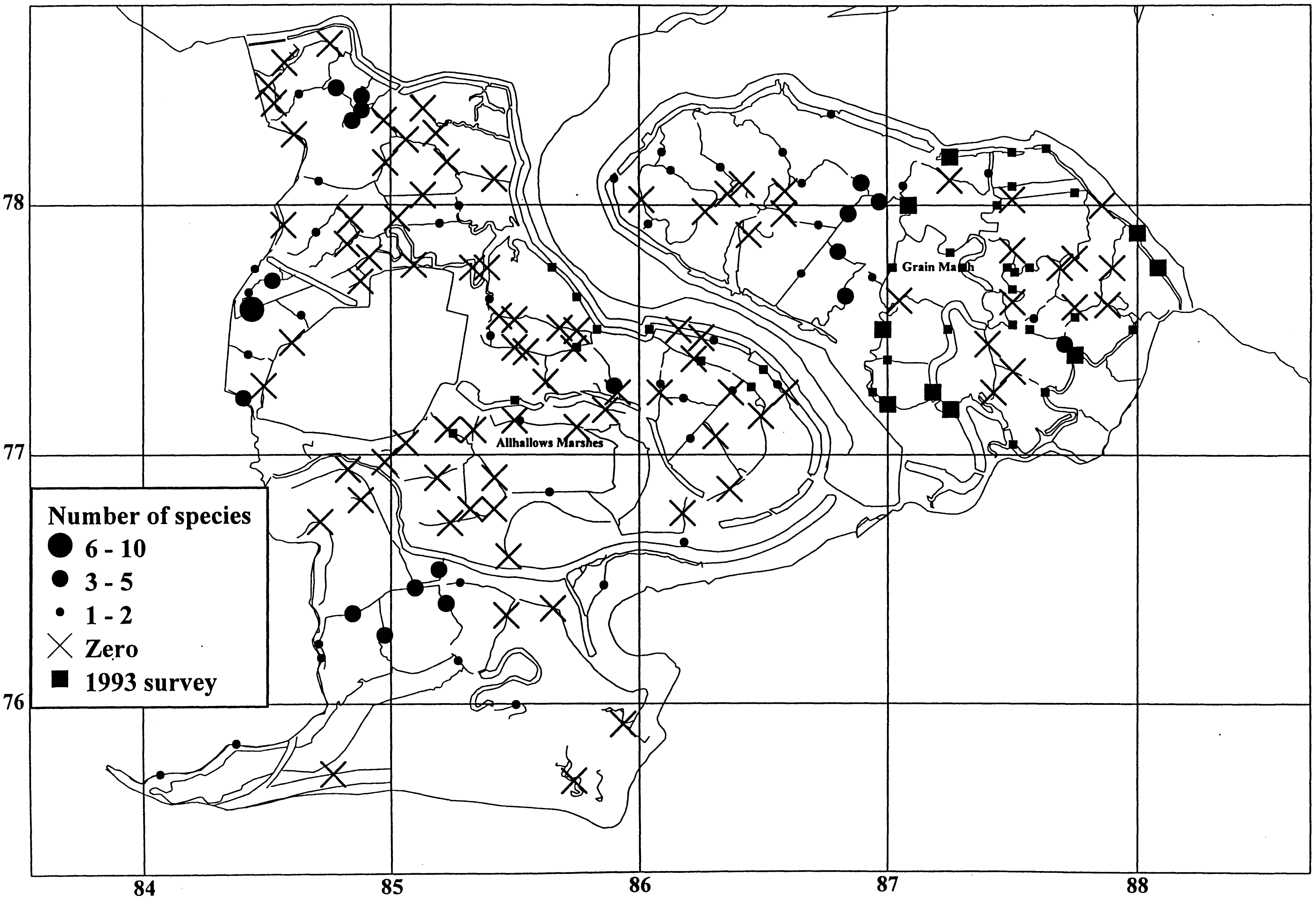
Conductivity values



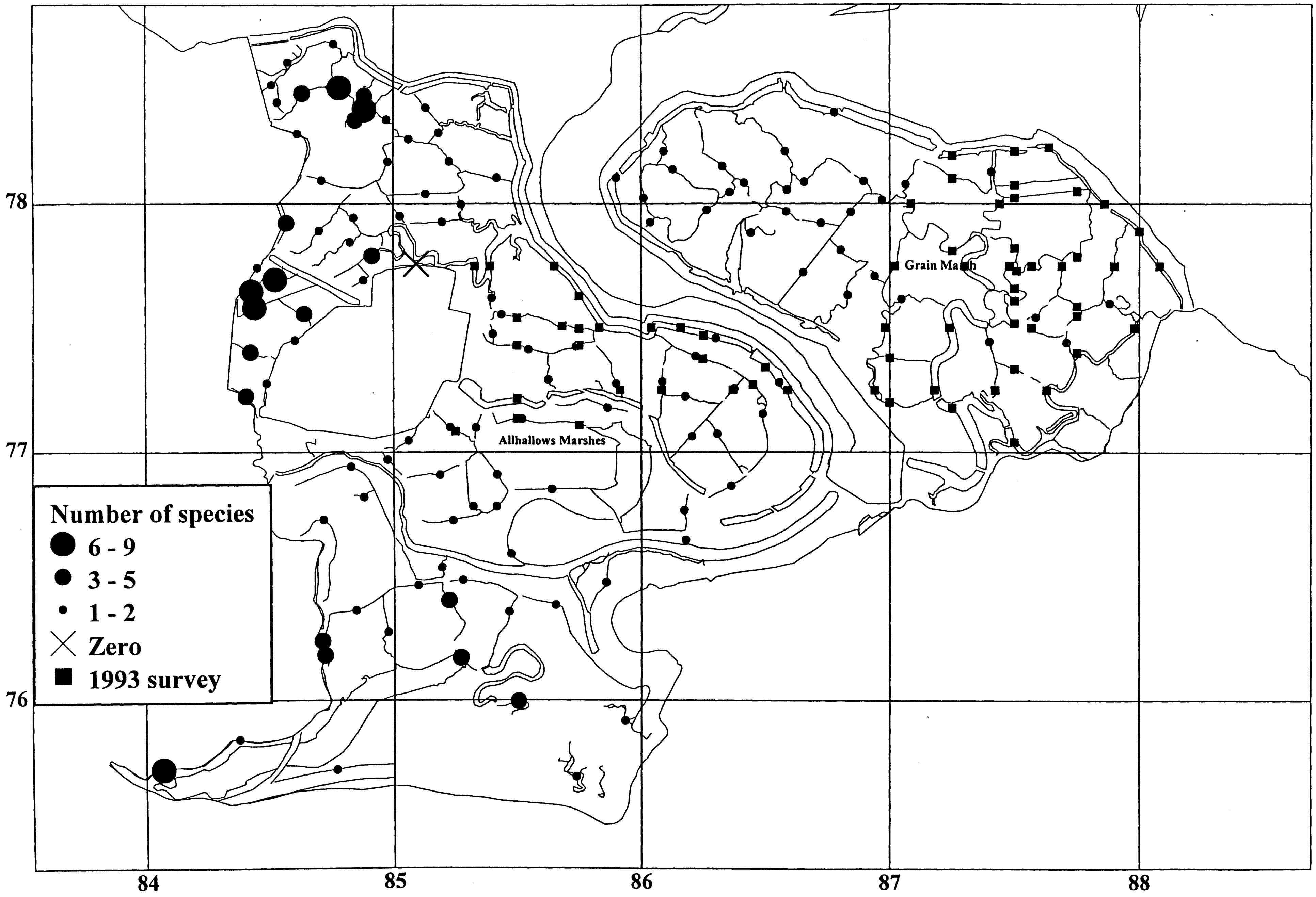
Ditch widths



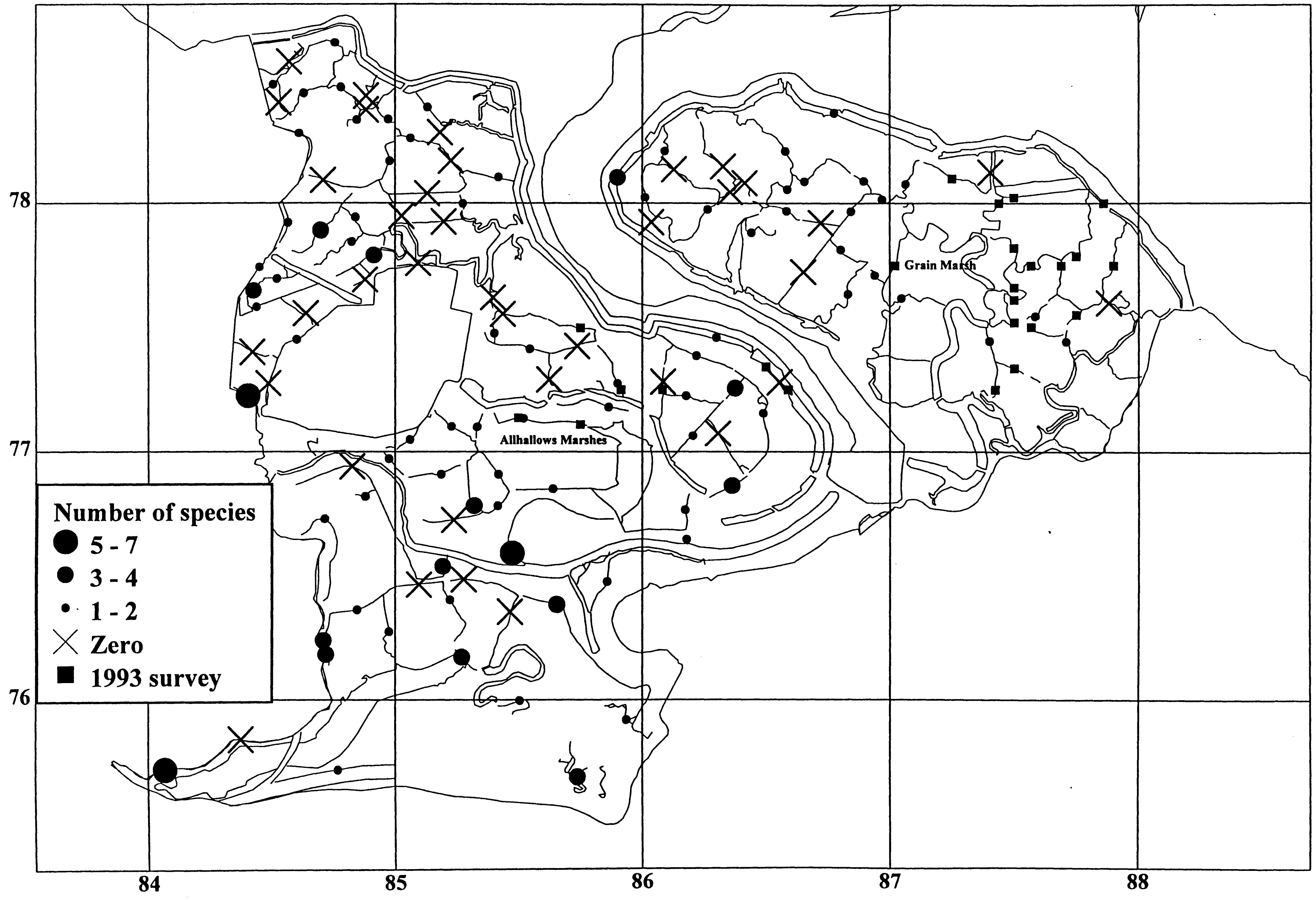
Number of aquatic species



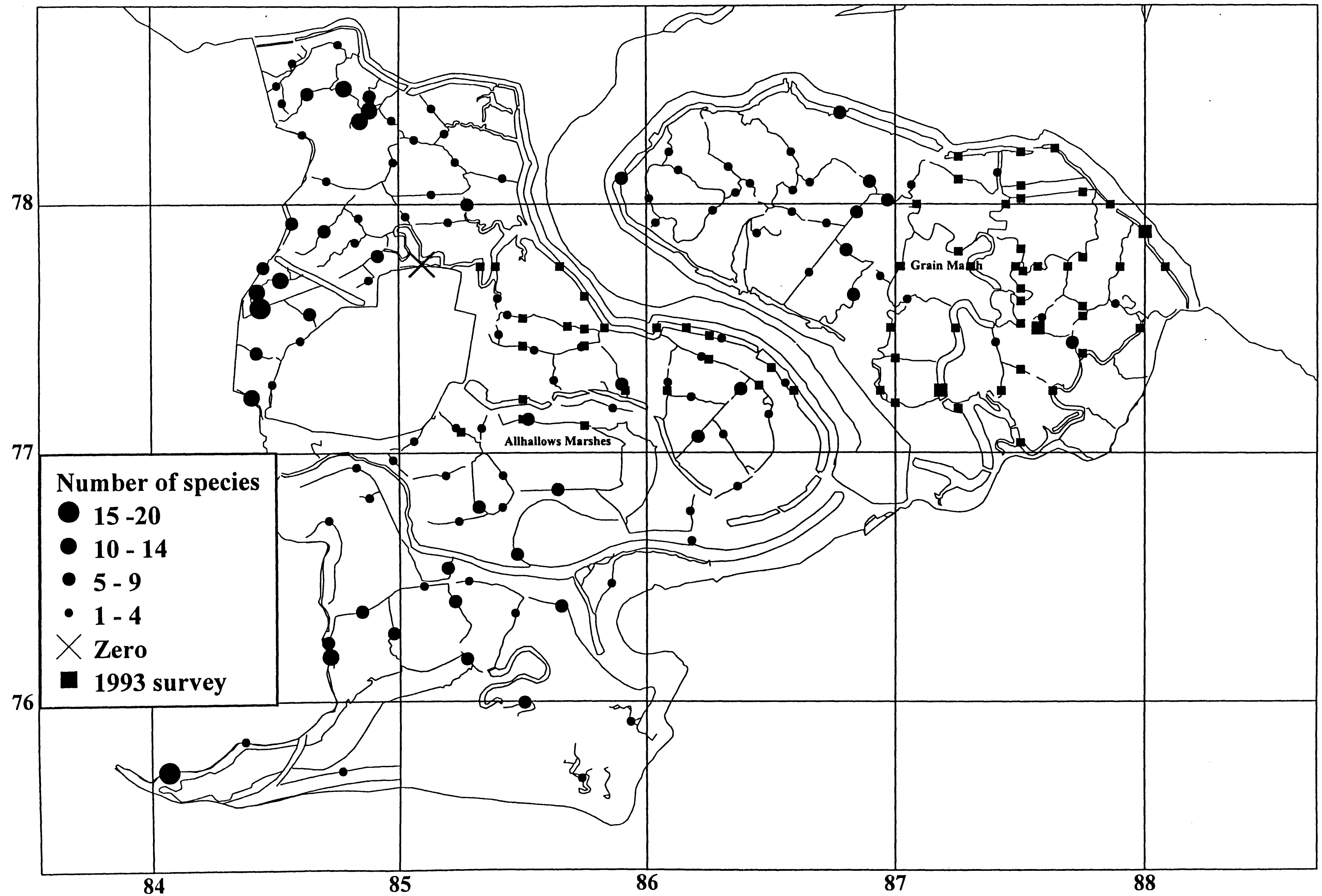
Number of emergent species



Number of bank species



Total number of species



A SURVEY OF DITCH FLORA IN THE NORTH KENT MARSHES SSSIs

1995

APPENDIX 2ii

DISTRIBUTION MAPS FOR:-
MEDWAY ESTUARY & MARSHES SSSI
THE SWALE SSSI
DIGGS AND SHEPPEY COURT MARSHES SNCI

SURVEYORS:-

Belinda Wiggs
Phil Williams
Brian Banks
Rob Cameron
Stephen Davis
Steve Clarke
Teresa Bennett
Richard Collingridge

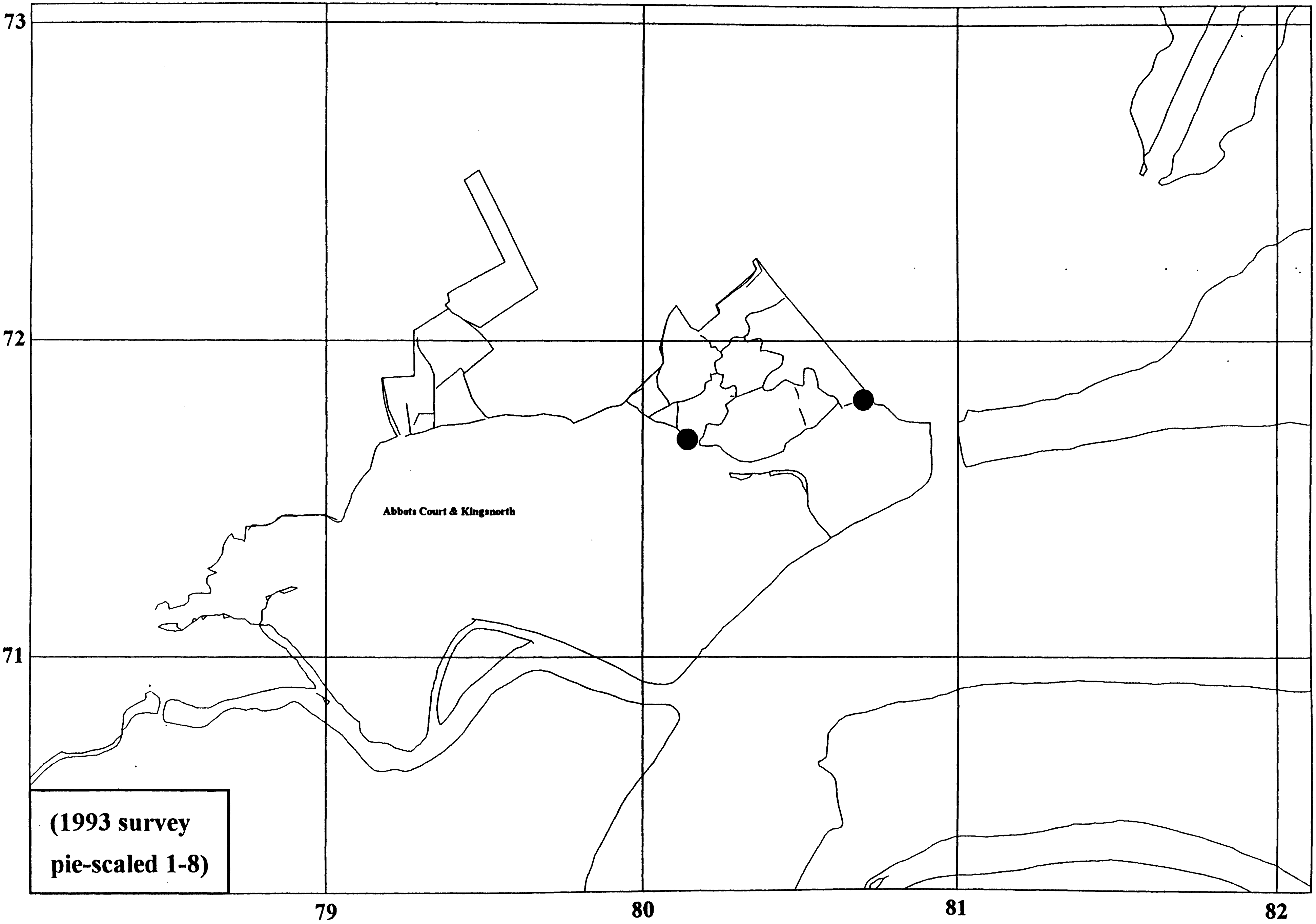
REPORT PRODUCED BY:-

Phil Williams
January 1996

For each map area species are arranged alphabetically in the groups aquatic, emergent and bank species, followed by the physical data and species totals.

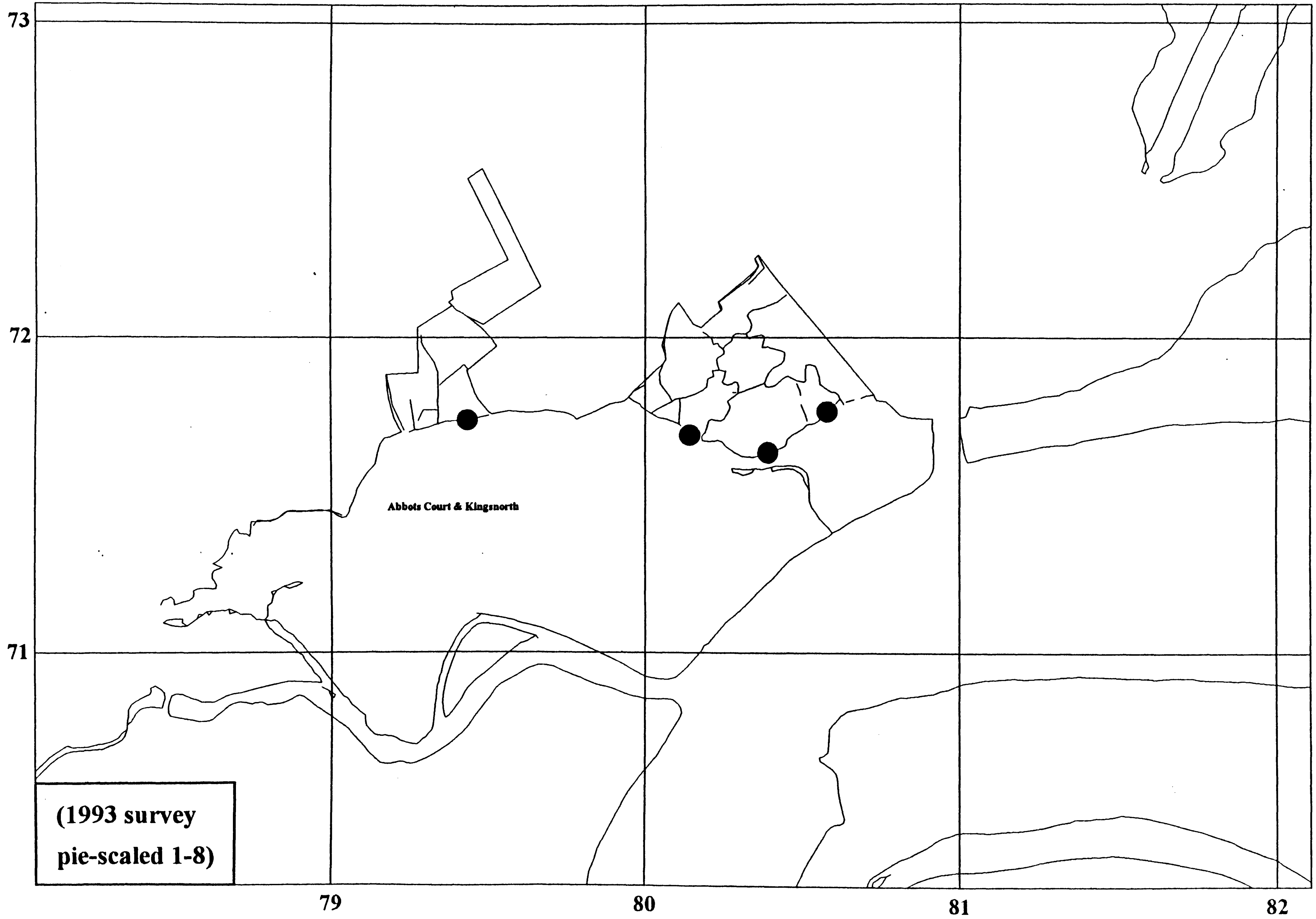
Survey Carried out by English Nature, co-funded by the National Rivers Authority

Myriophyllum spicatum

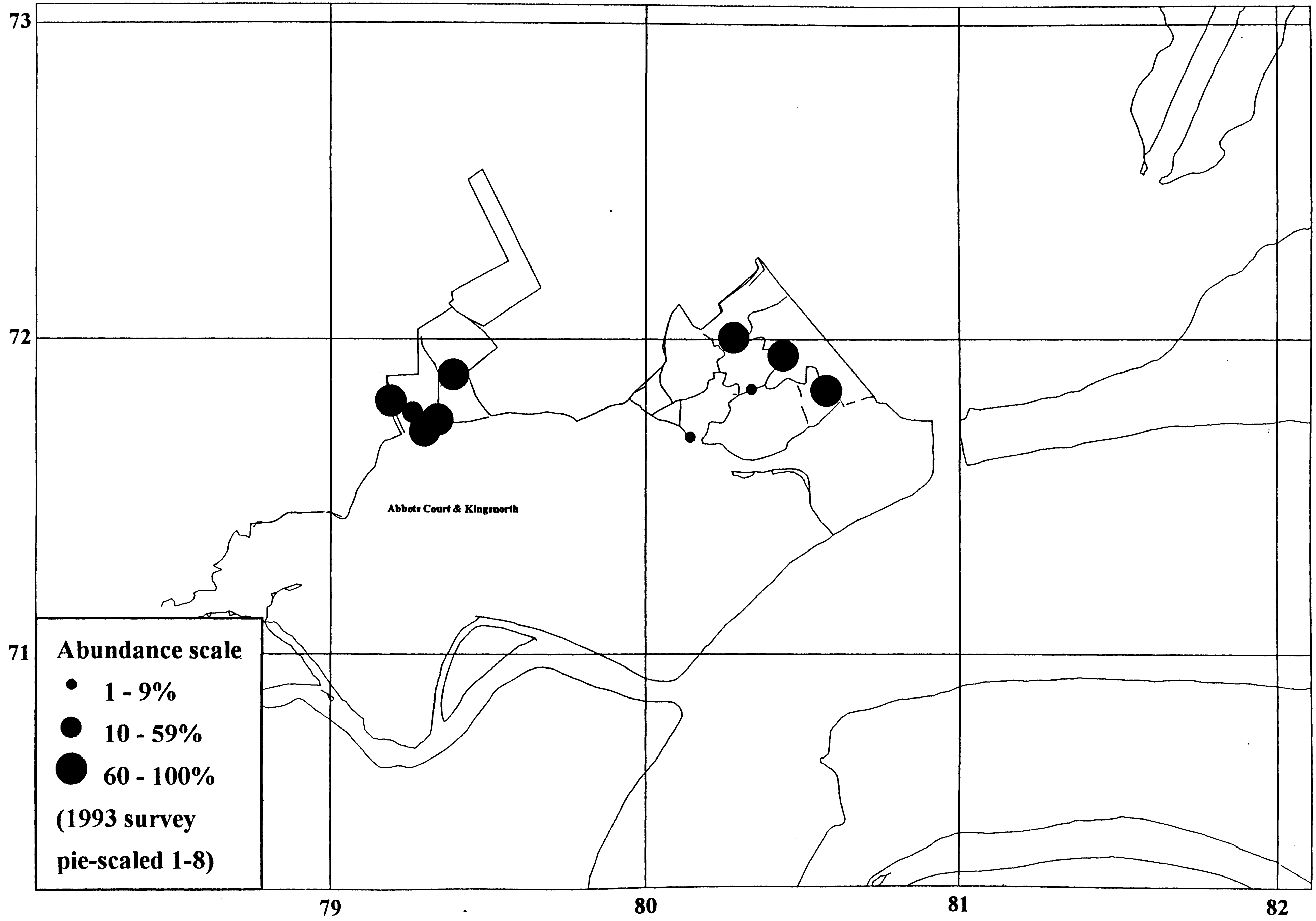


(1993 survey
pie-scaled 1-8)

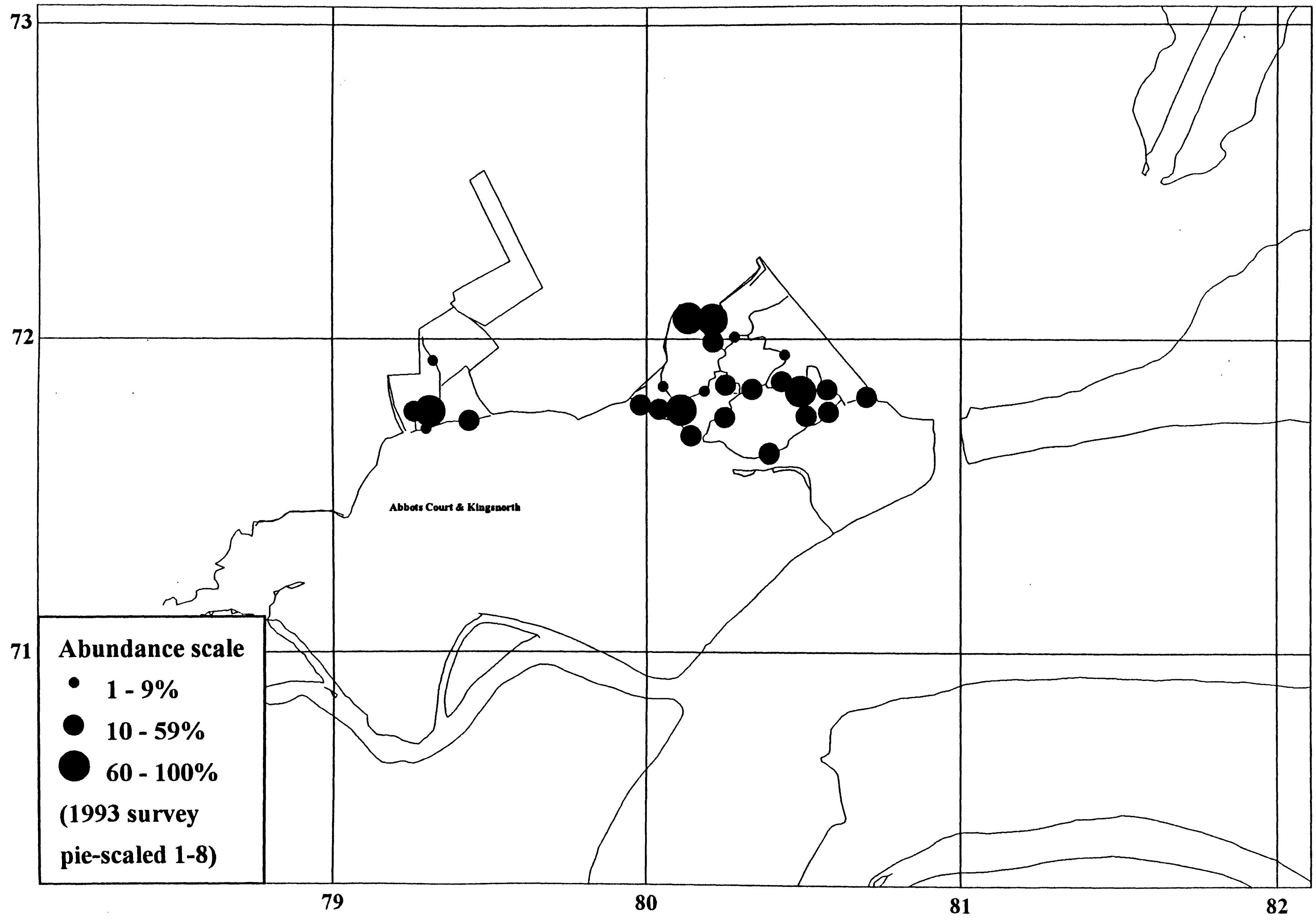
Potamogeton pectinatus



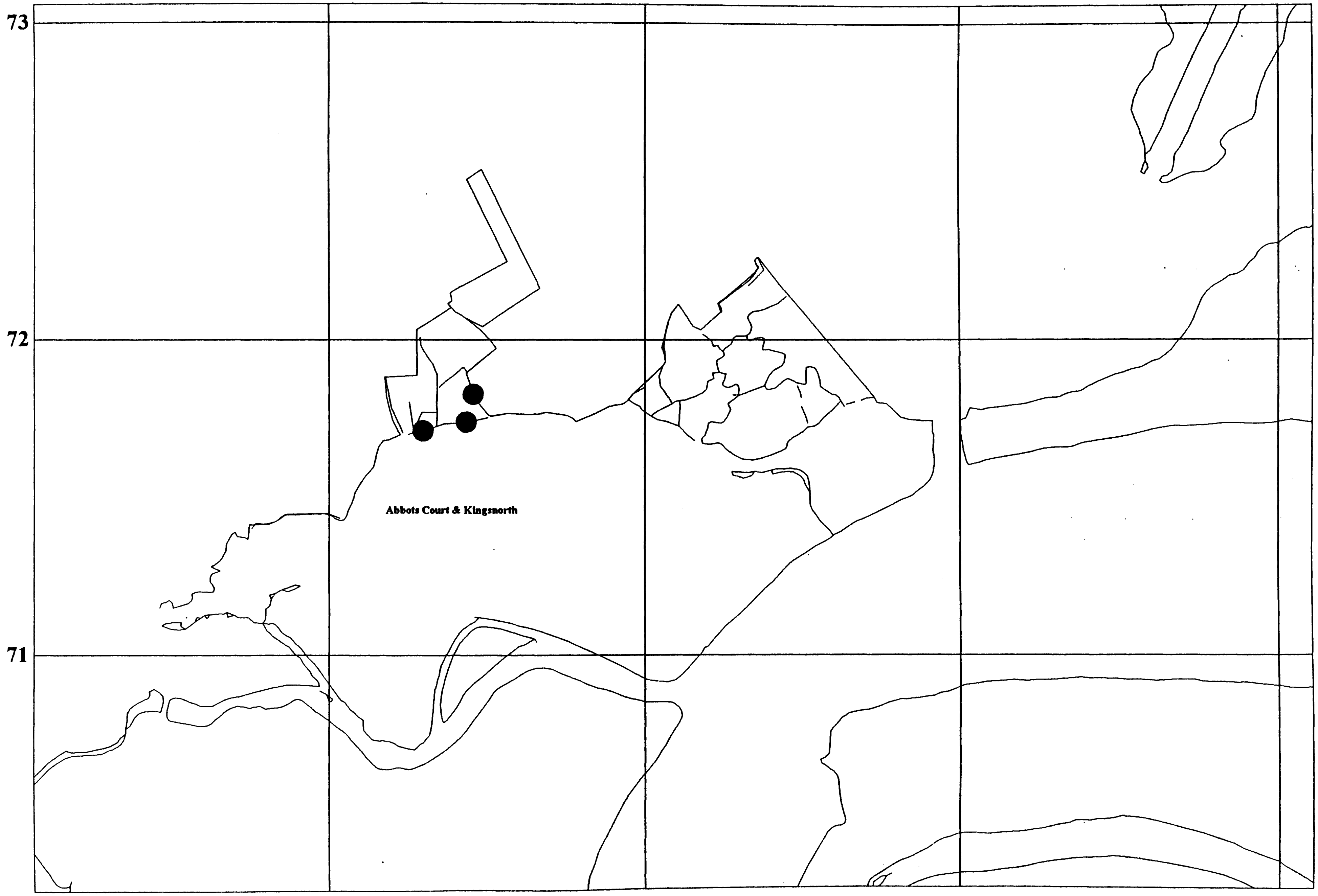
Phragmites australis



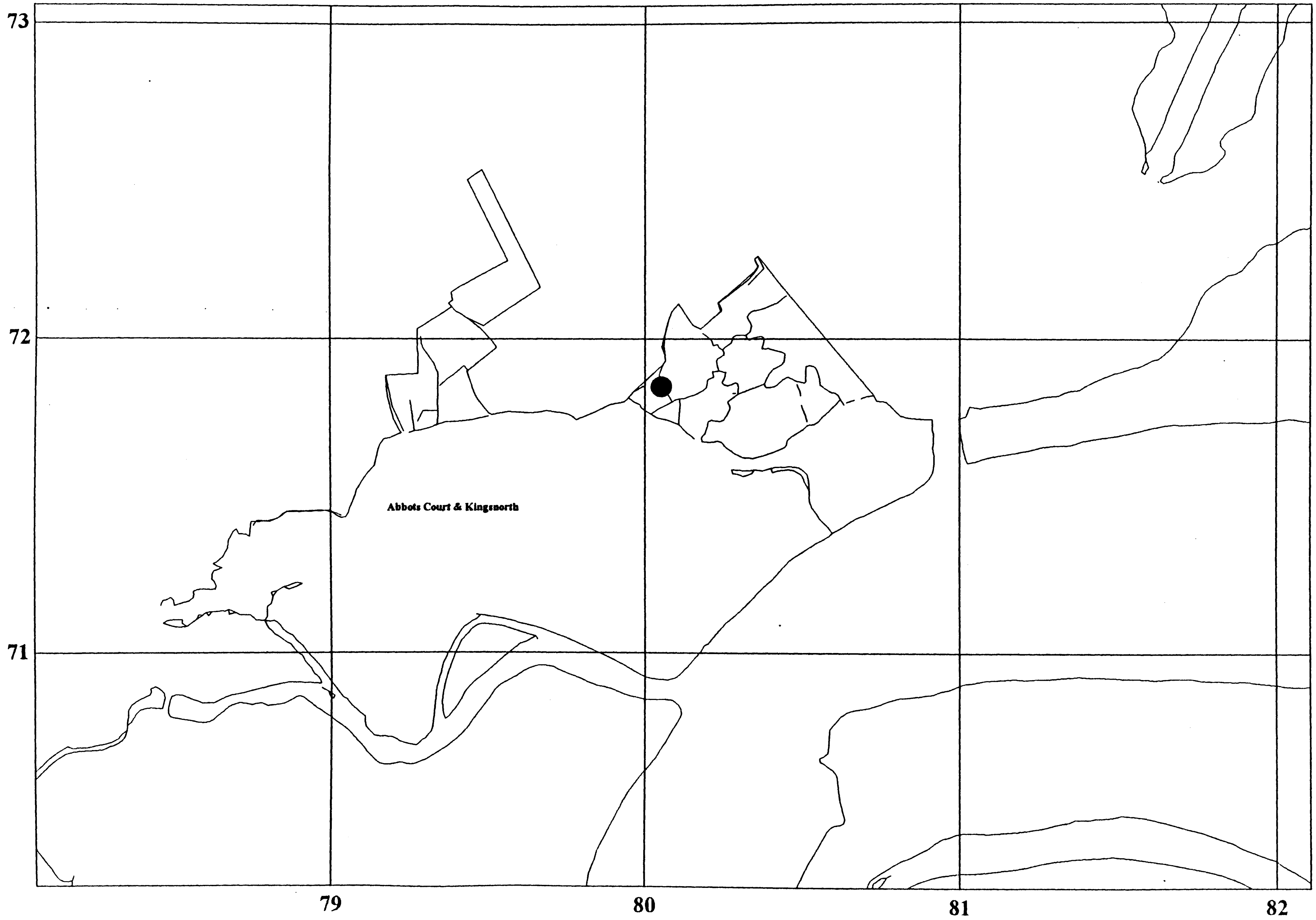
Scirpus maritimus



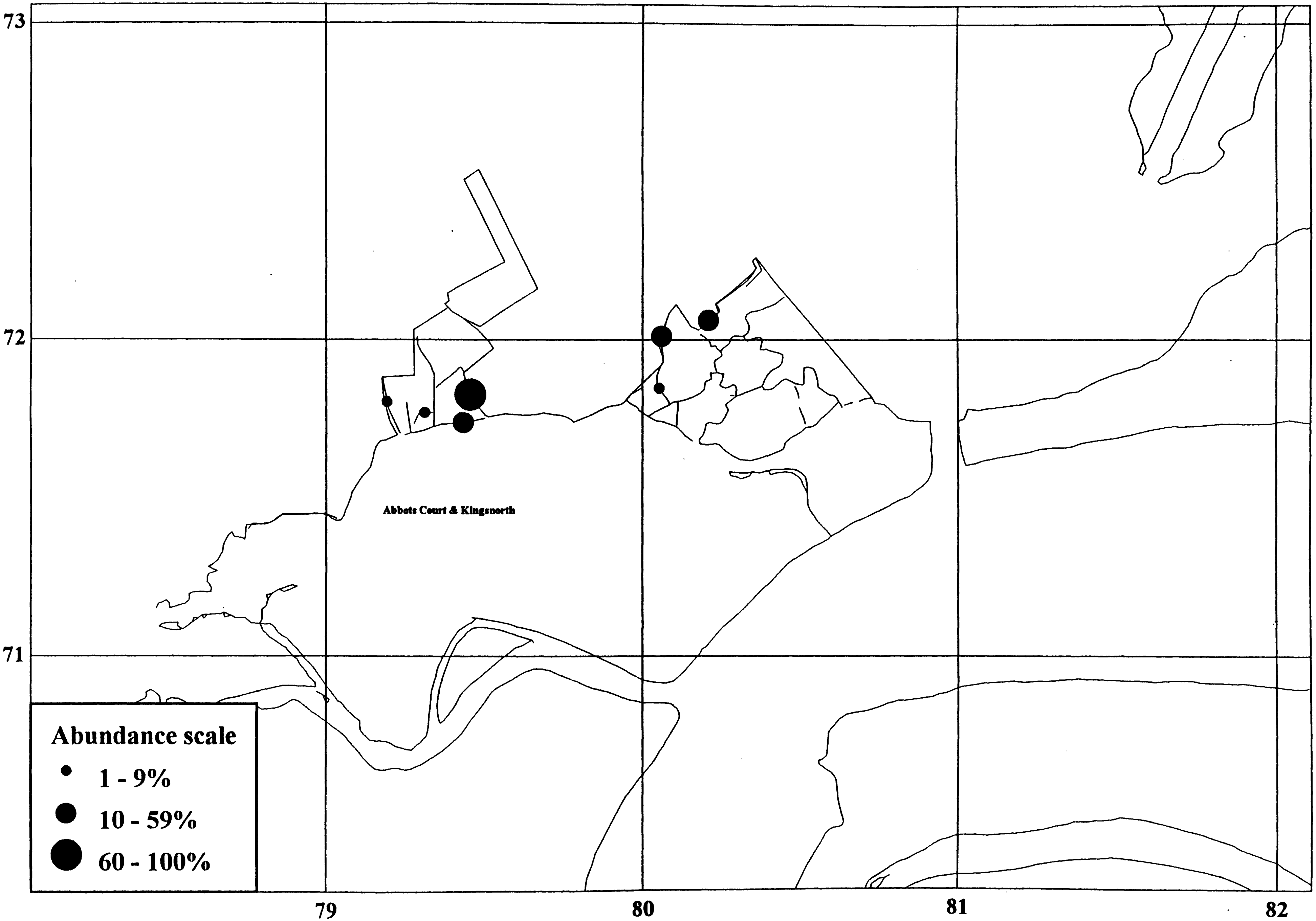
Carex divisa



Chenopodium chenopodioides

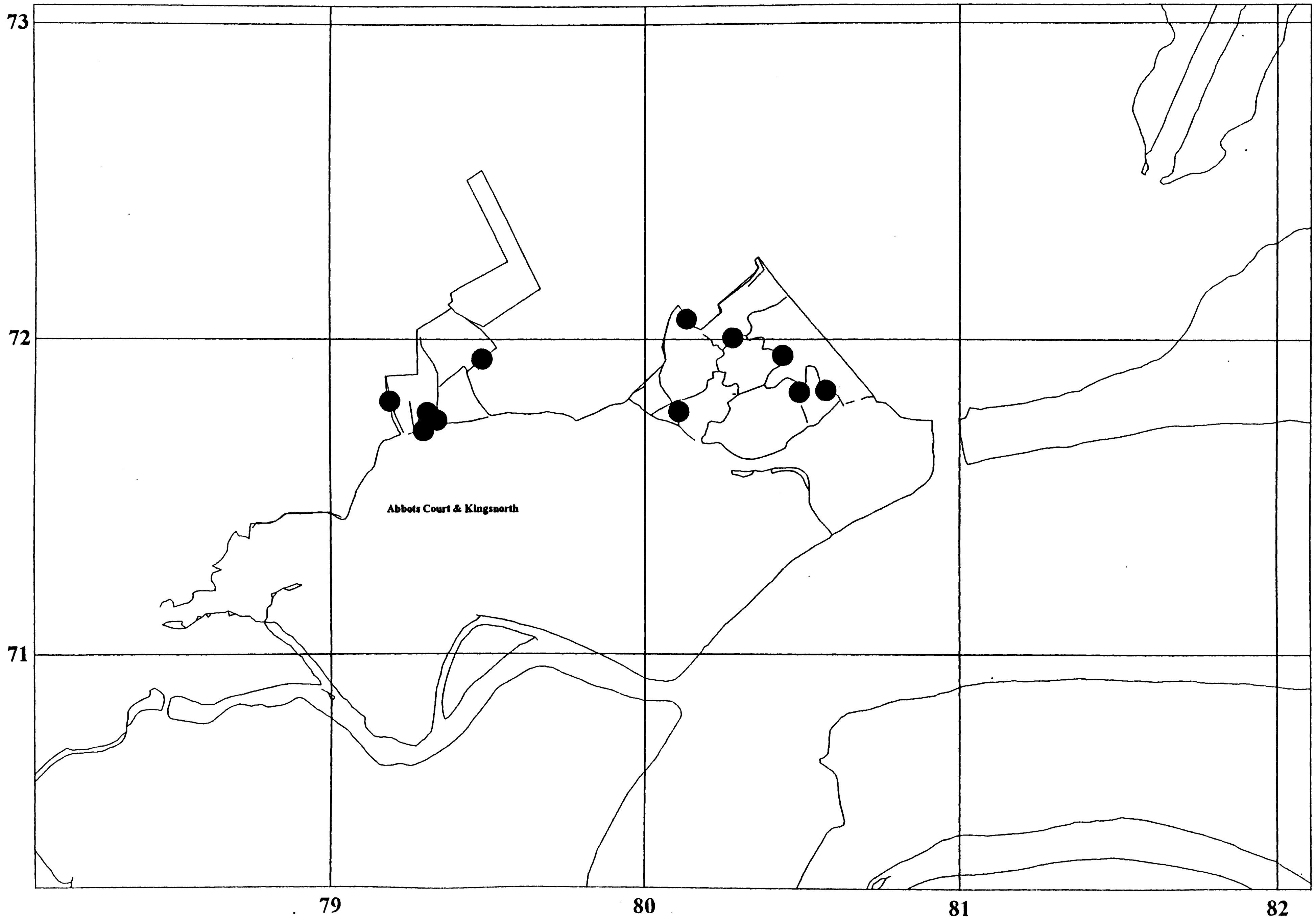


Scrub cover

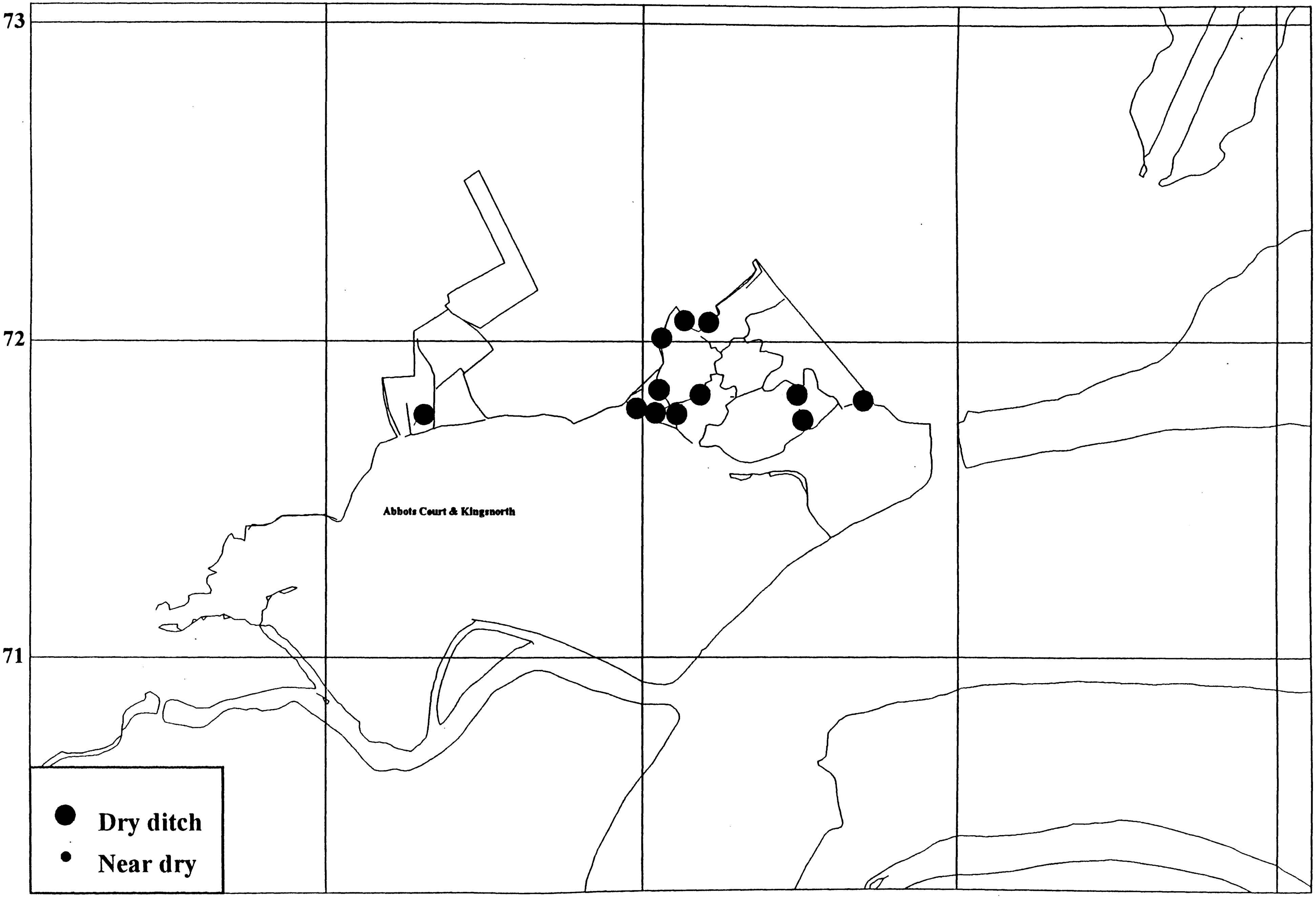


73
72
71
79
80
81
82
Abbots Court & Kingsnorth
Abundance scale
● 1 - 9%
● 10 - 59%
● 60 - 100%

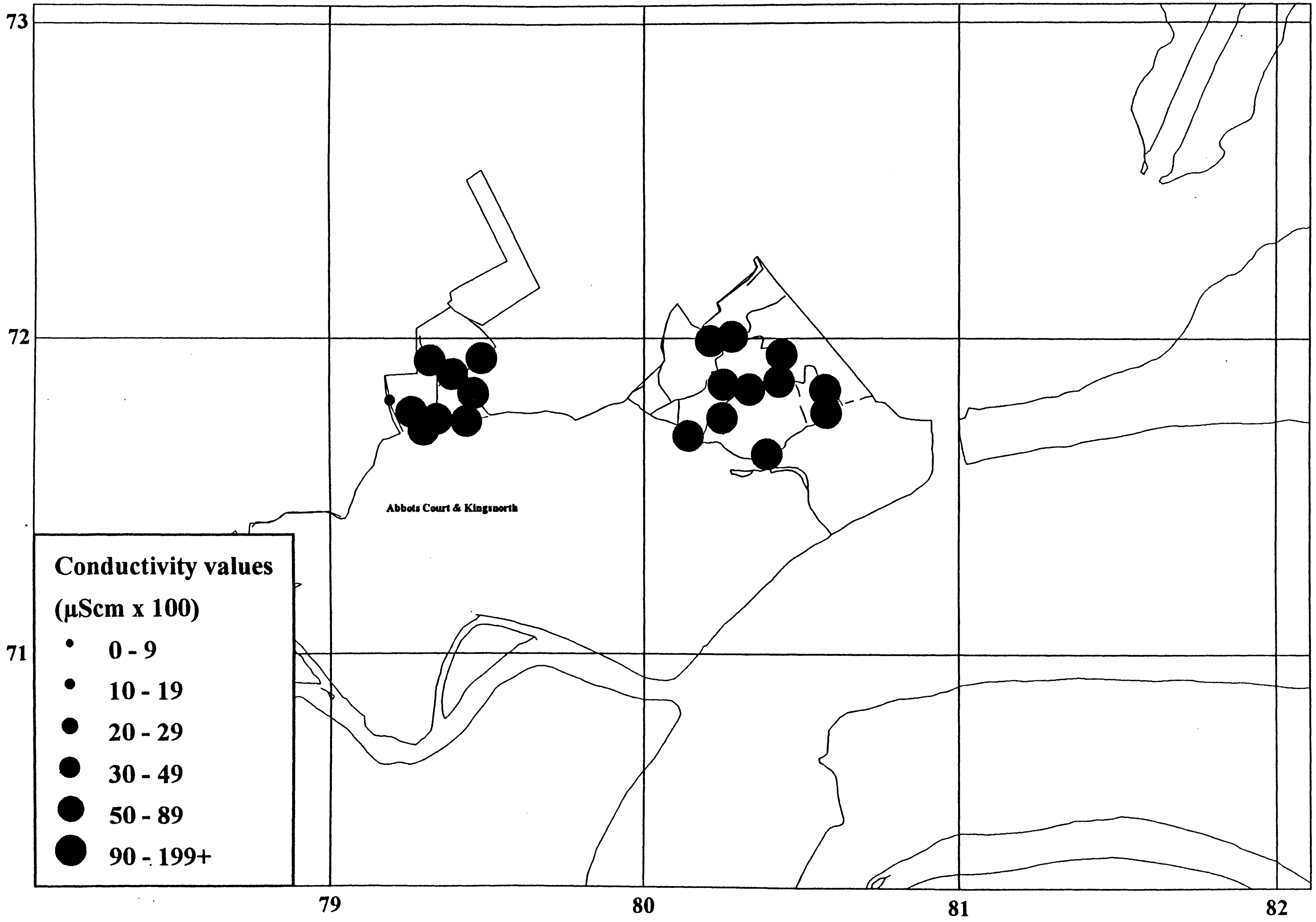
Ditch choked



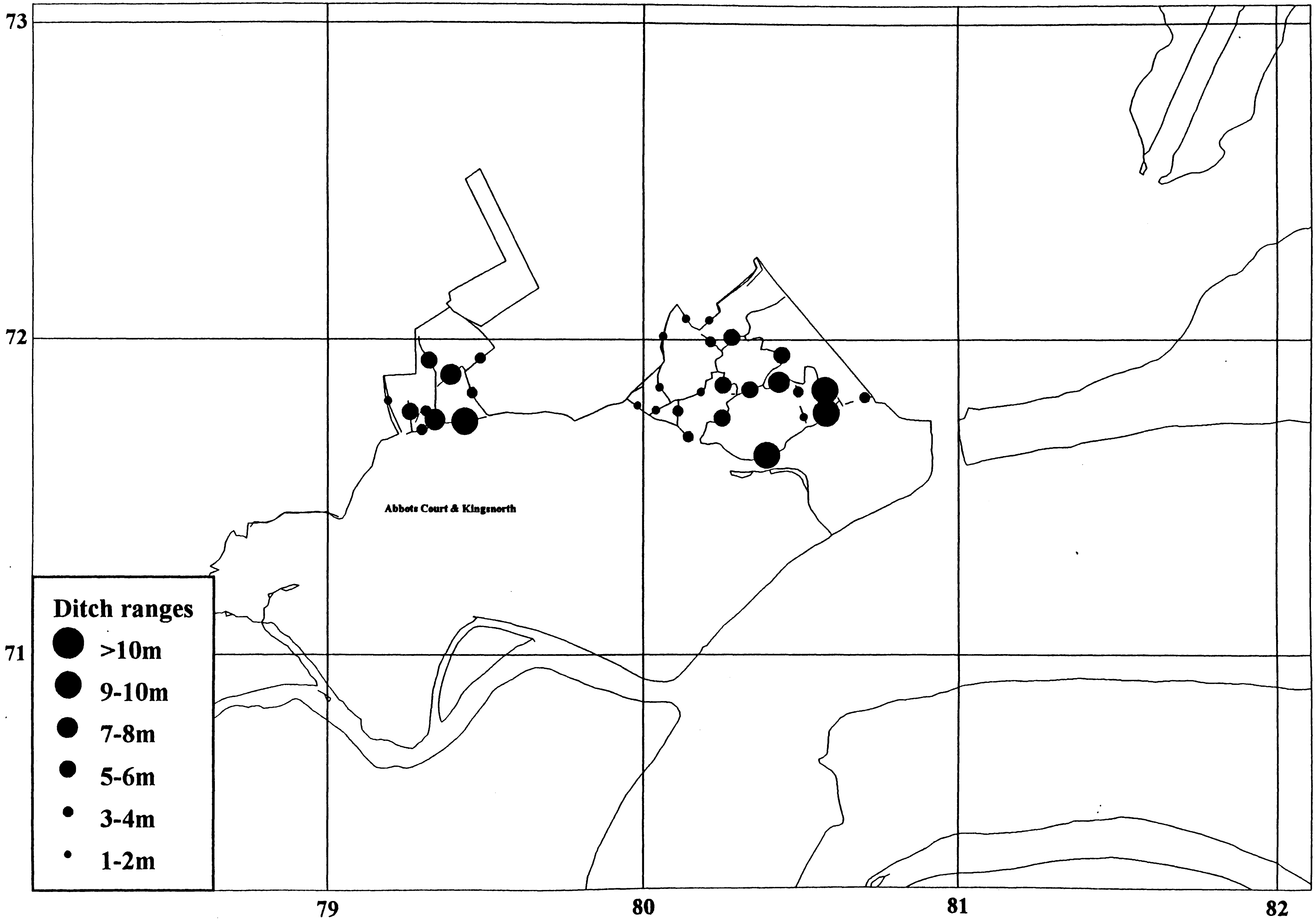
Ditch dry


73
72
71
79
80
81
82
Abbots Court & Kingsnorth
● Dry ditch
• Near dry

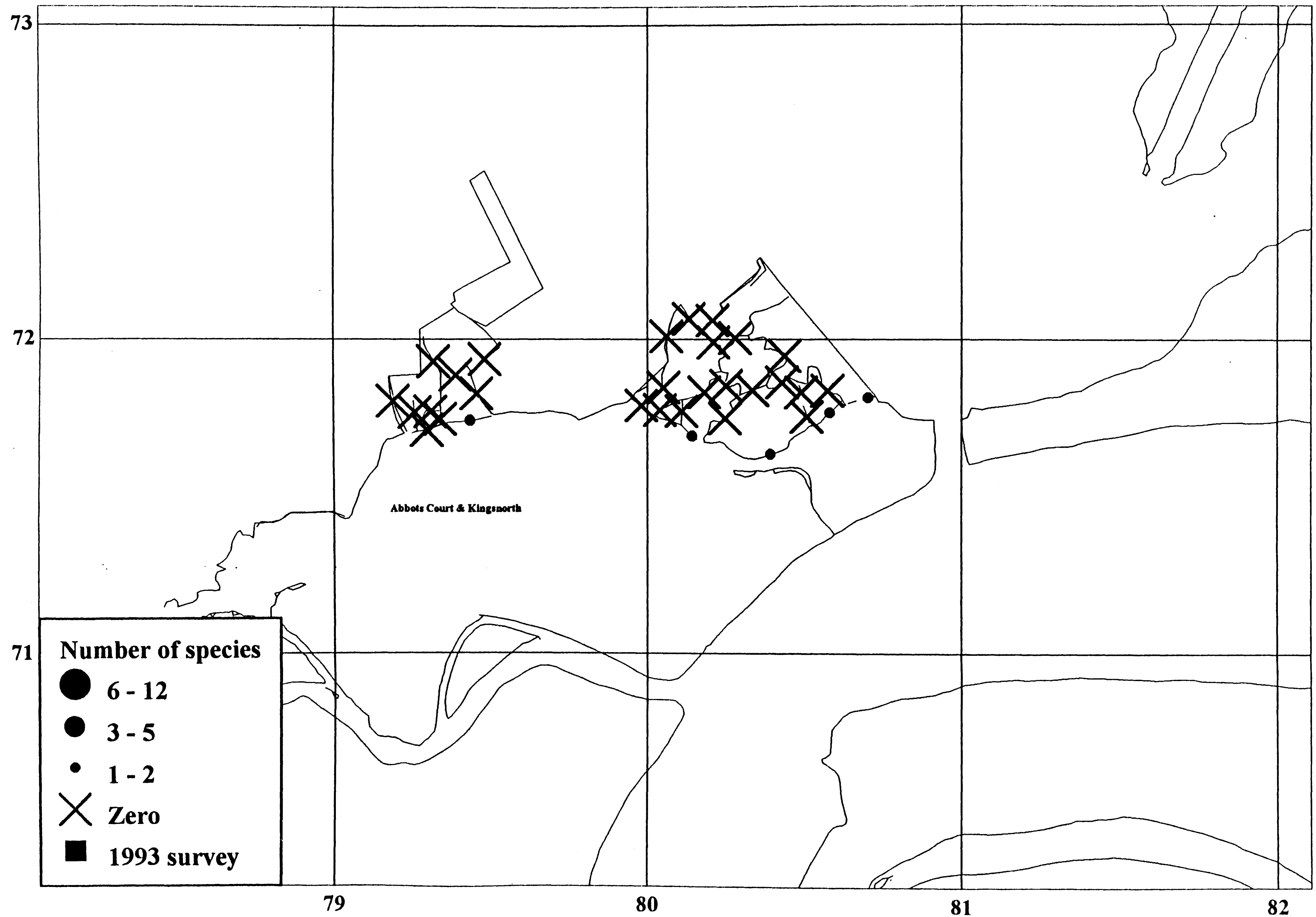
Conductivity values



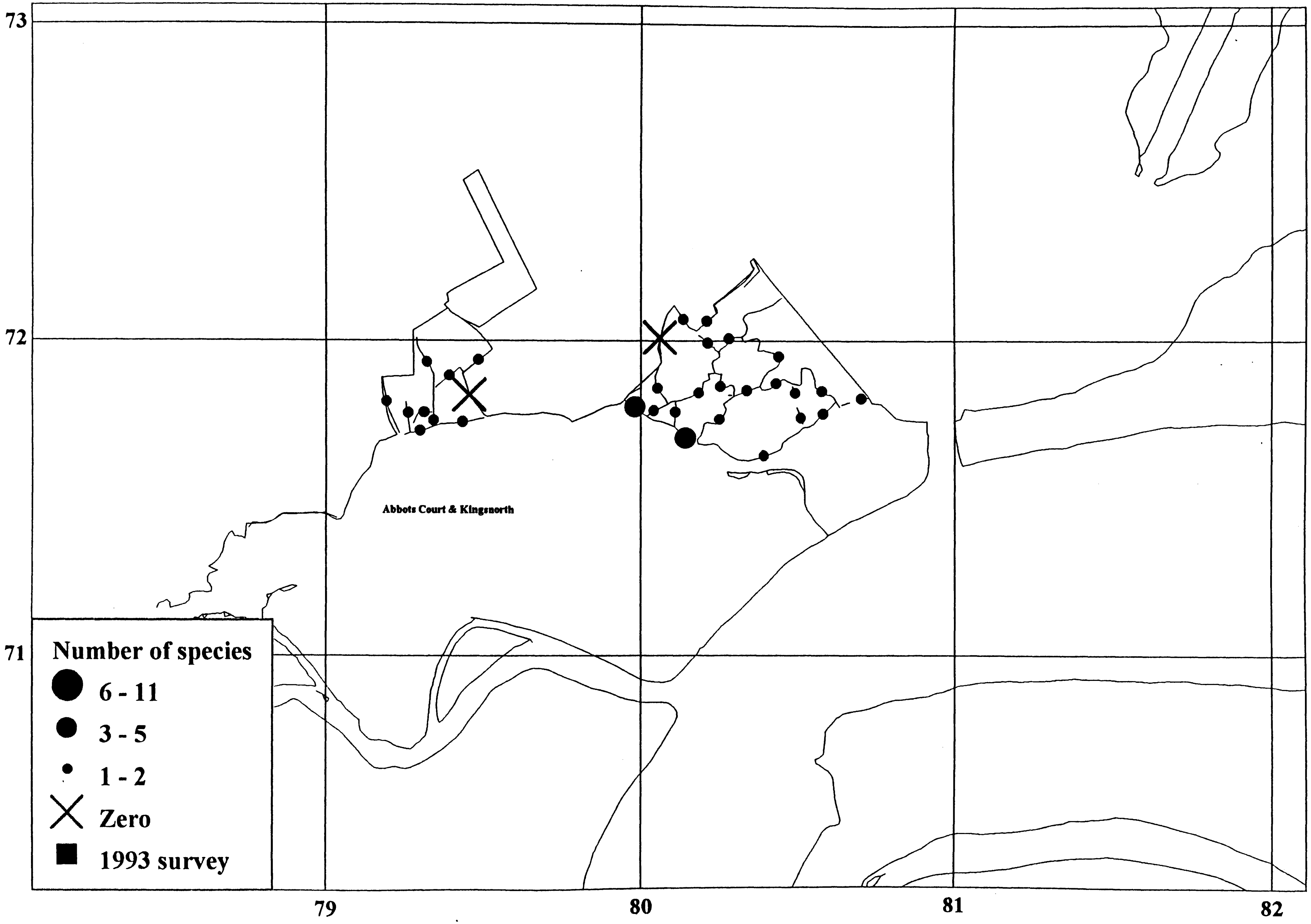
Ditch widths



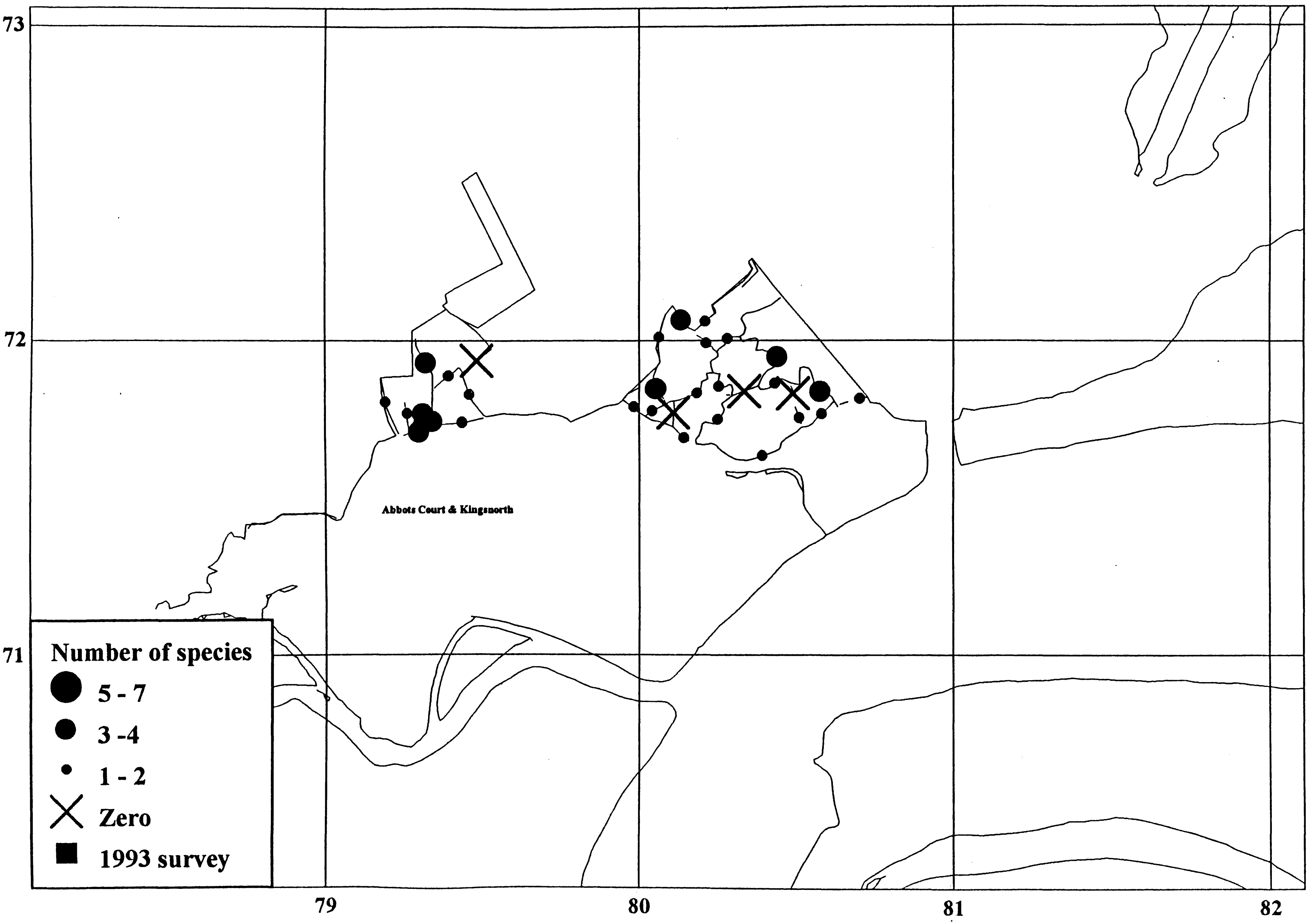
Number of aquatic species



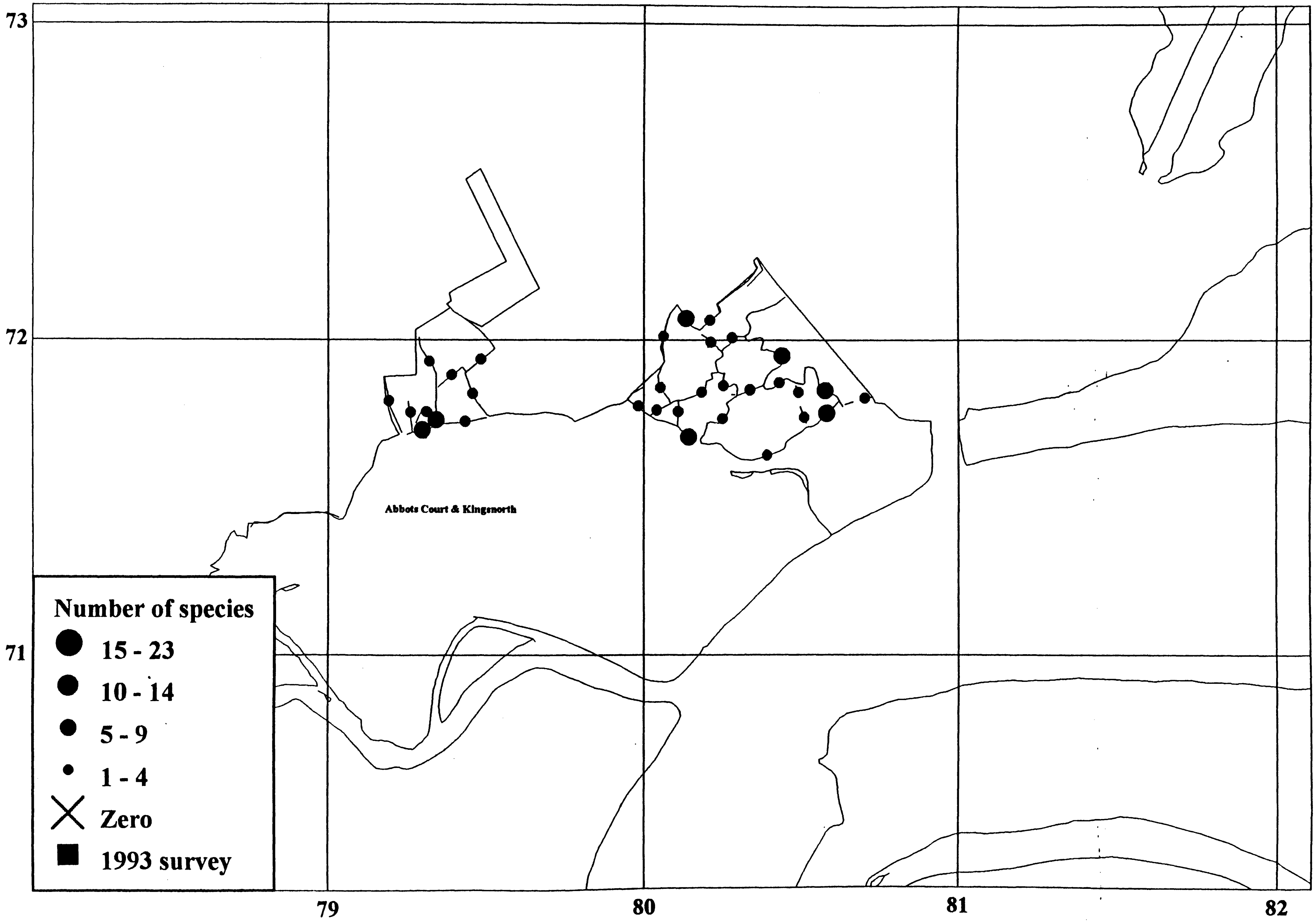
Number of emergent species



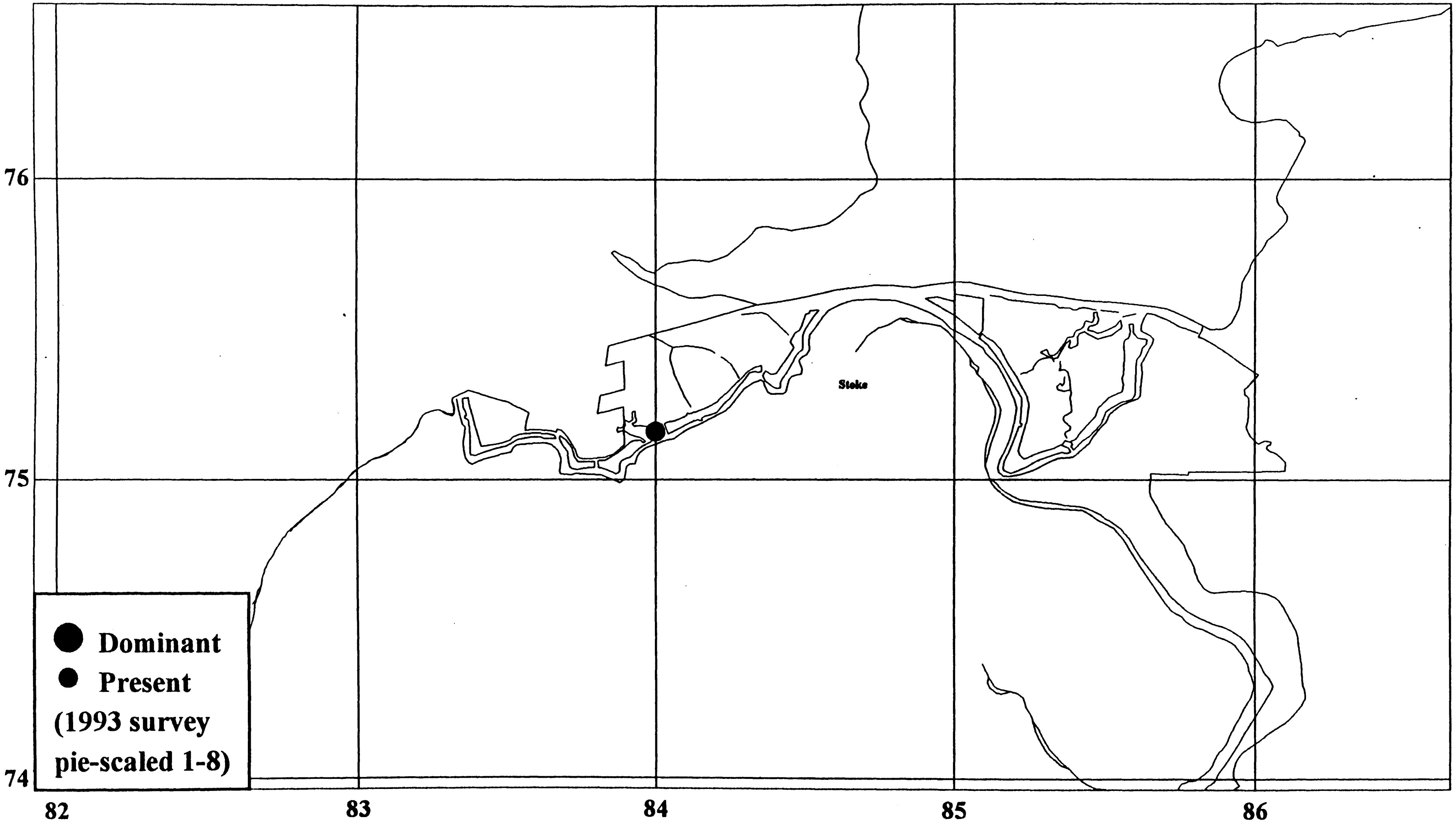
Number of bank species



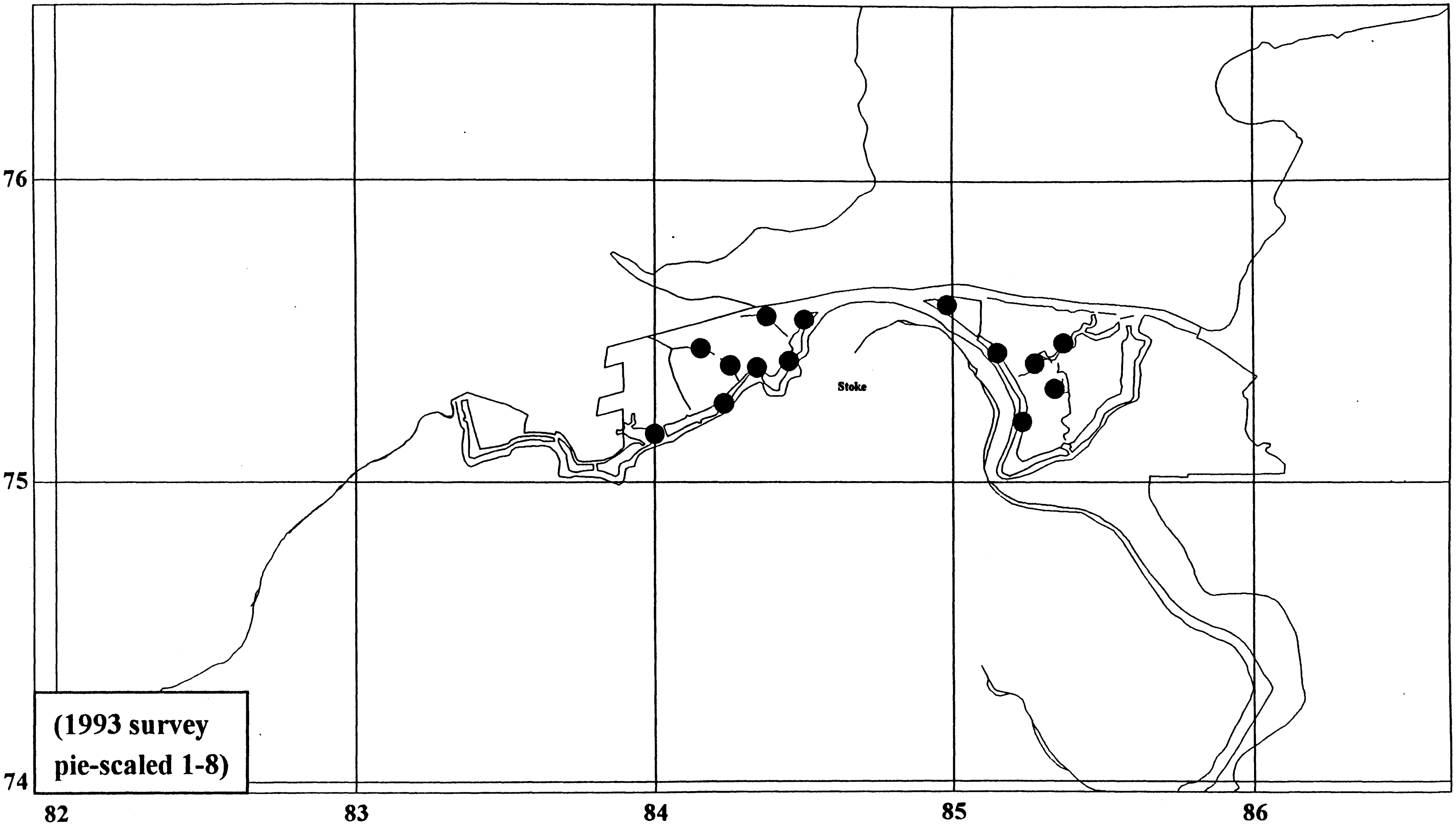
Total number of species



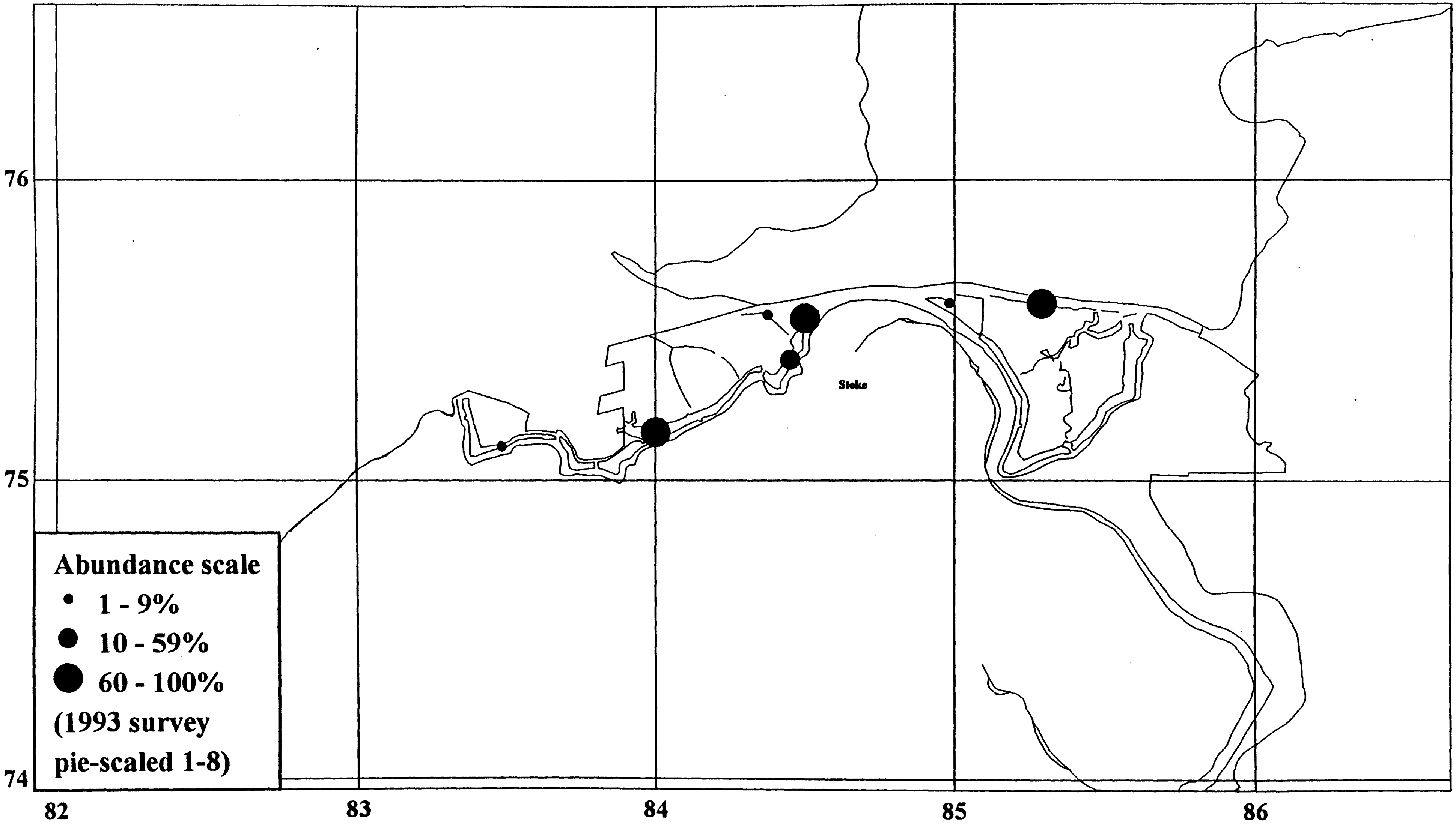
Ceratophyllum submersum



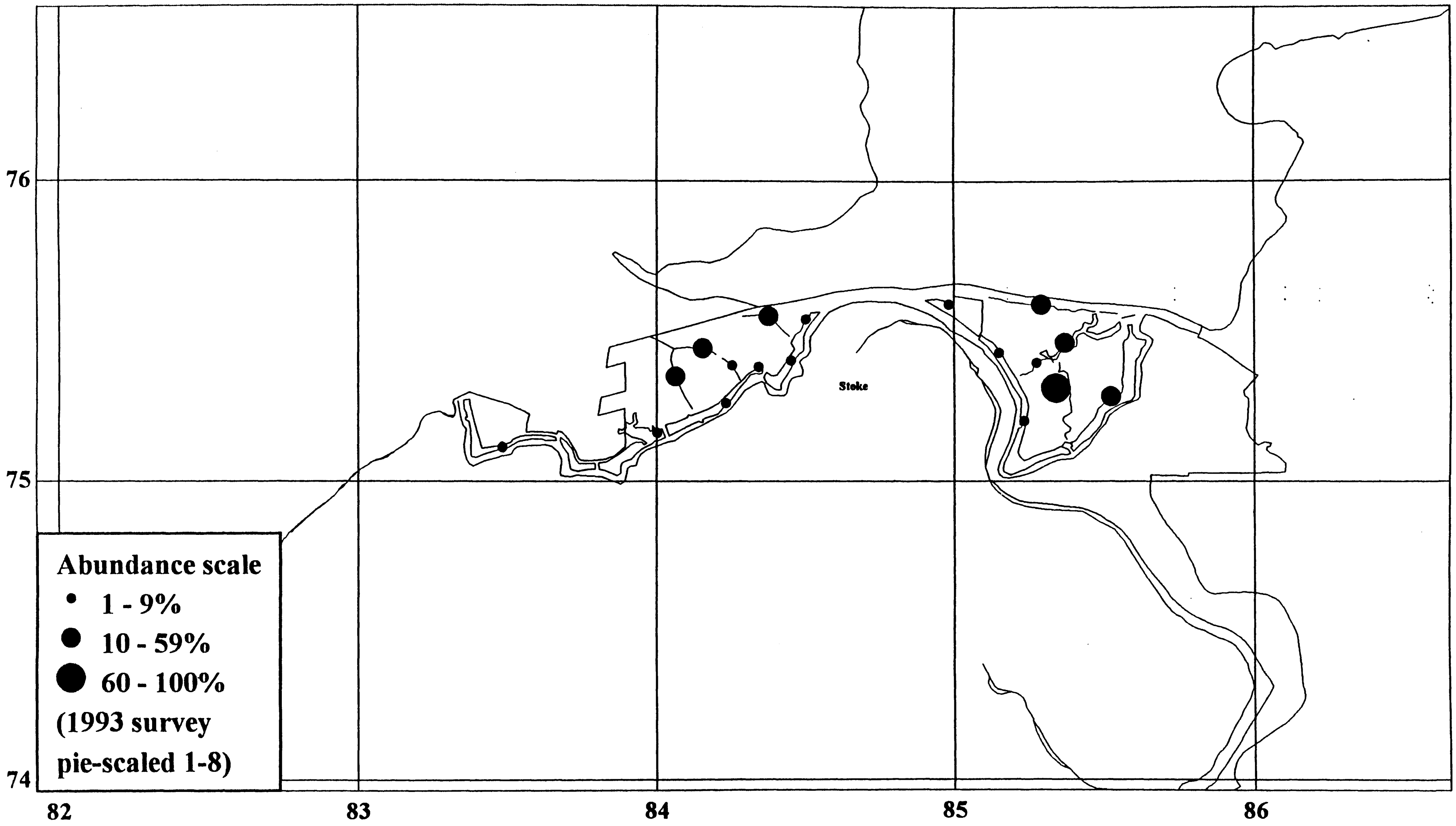
Potamogeton pectinatus



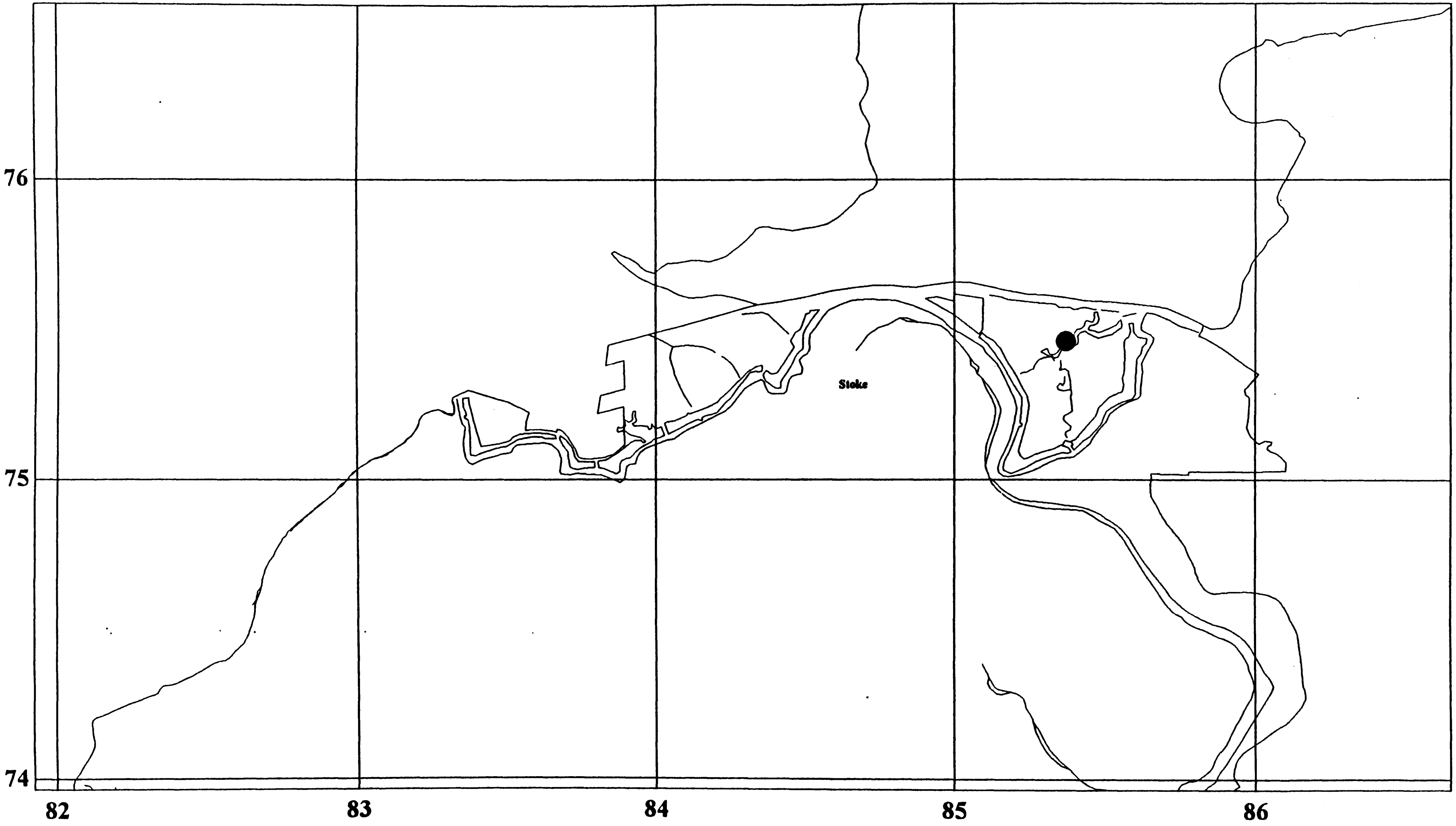
Phragmites australis



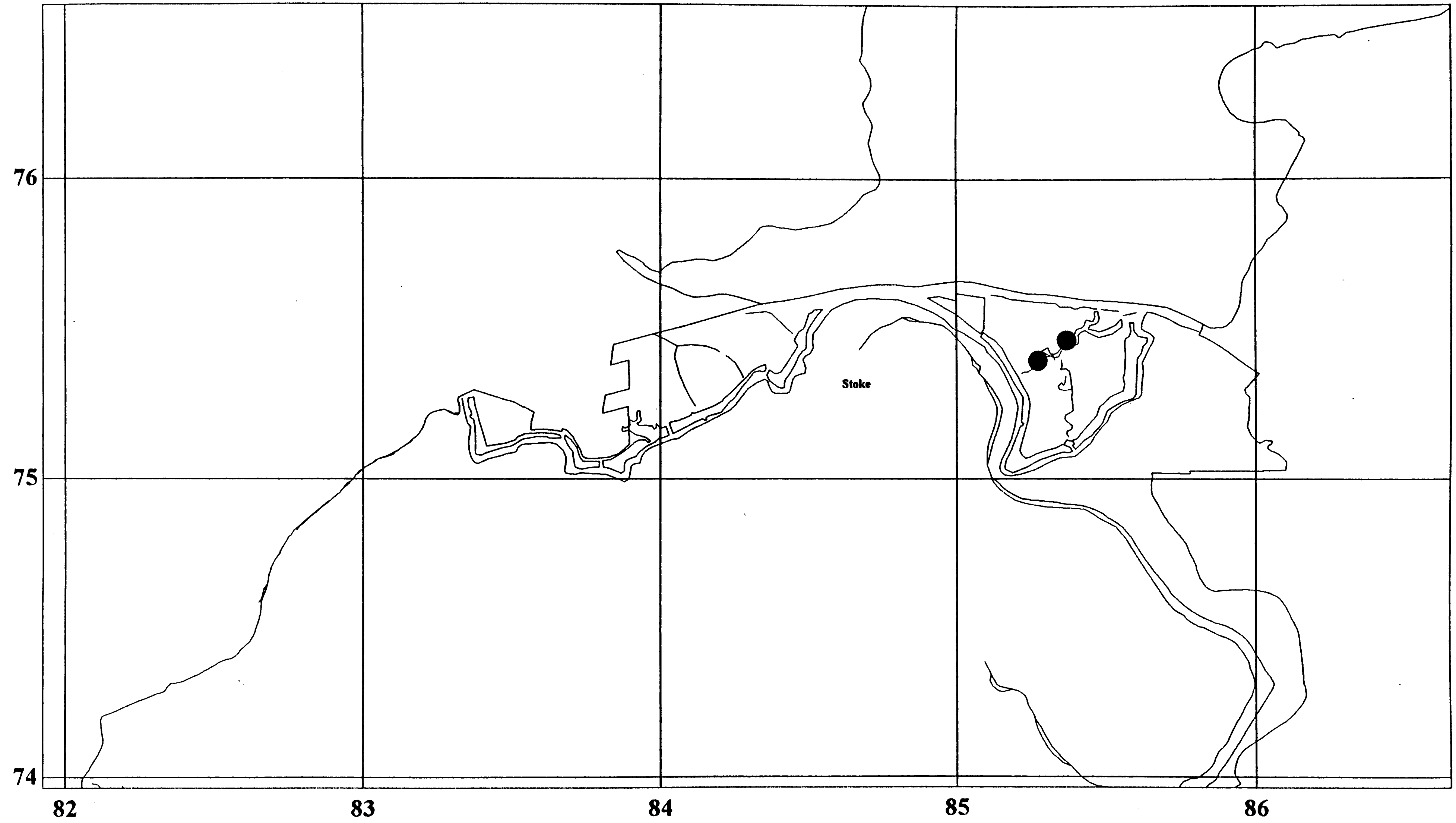
Scirpus maritimus



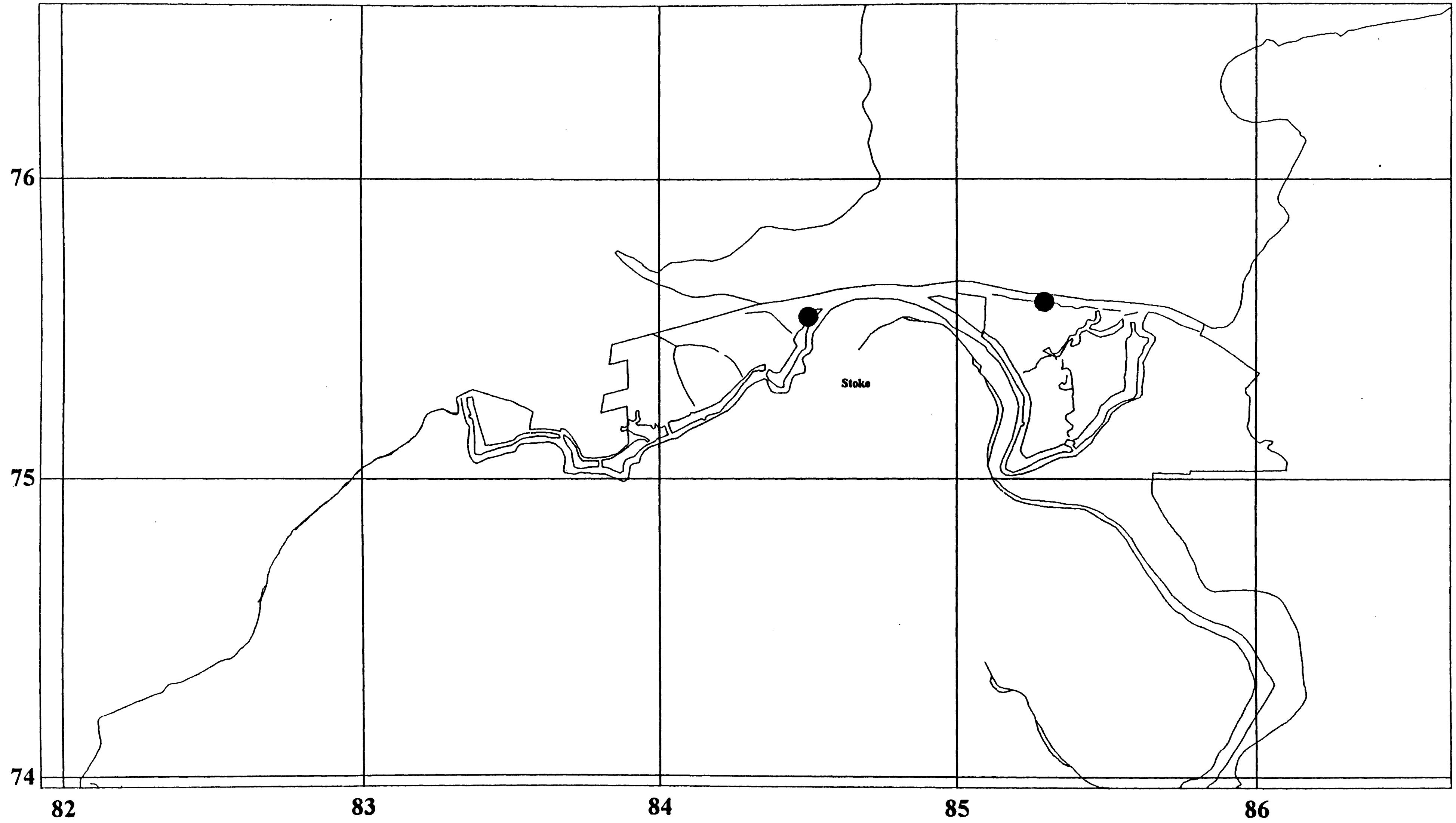
Chenopodium chenopodioides



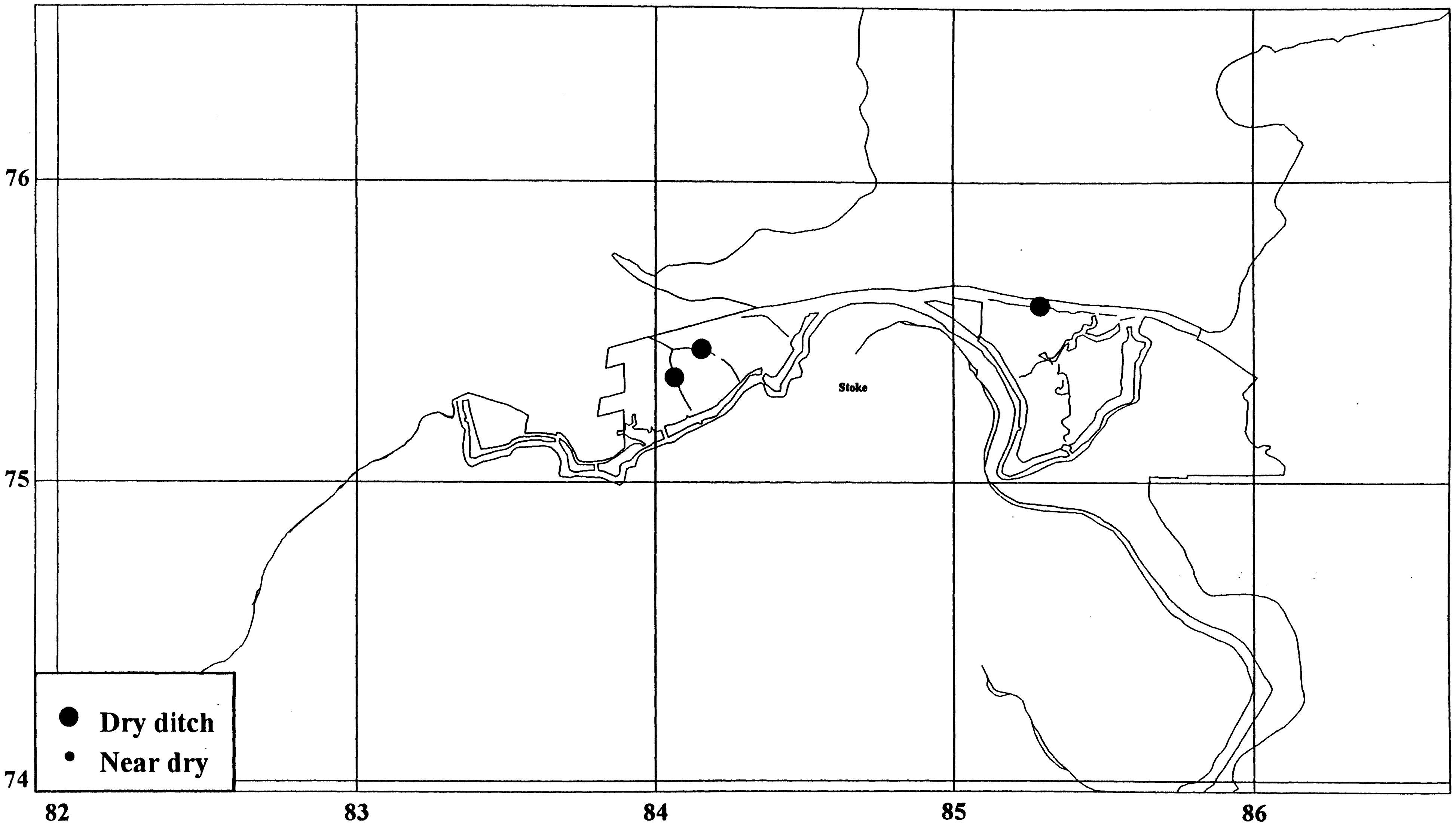
Polypogon monspeliensis



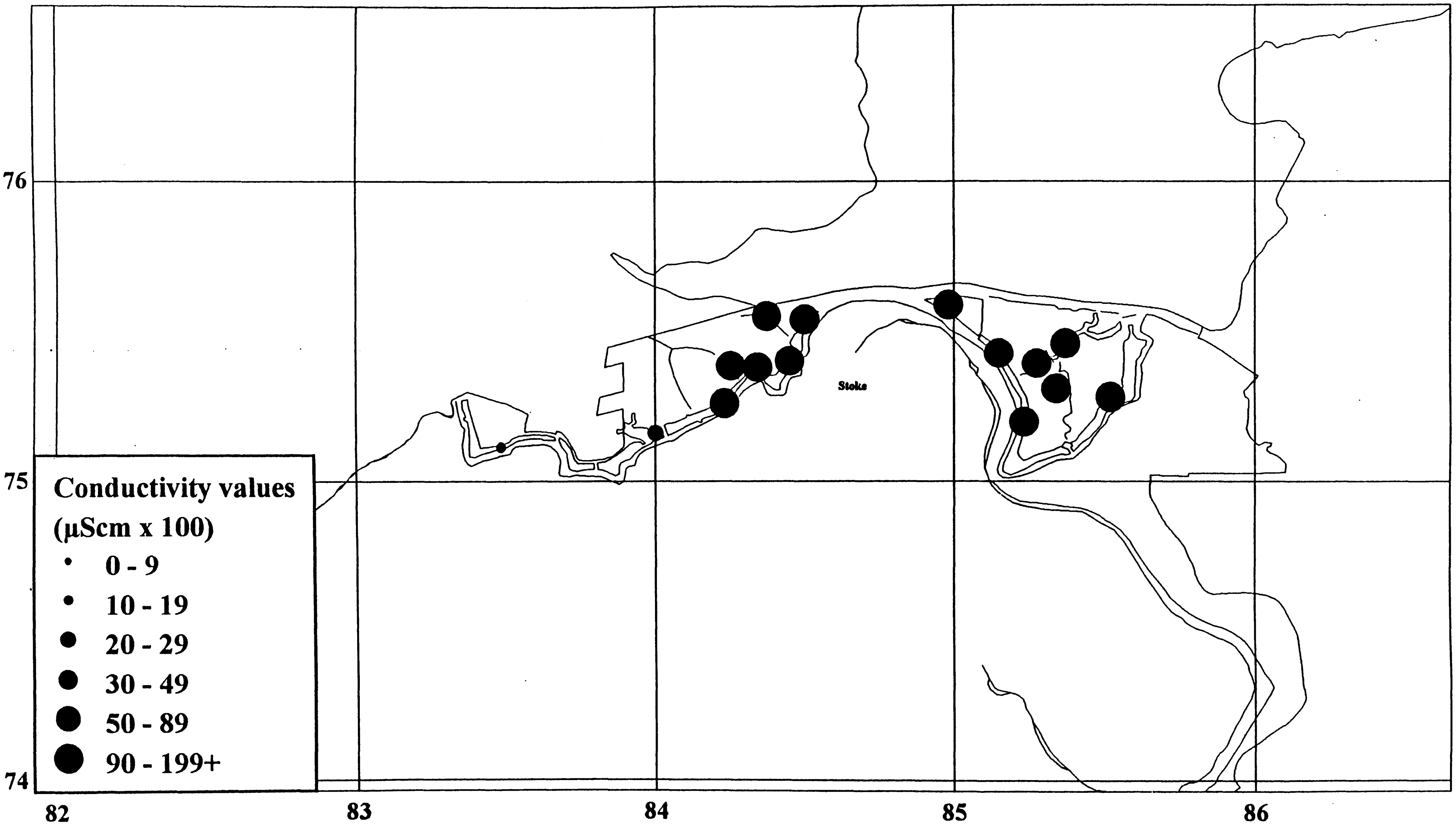
Ditch choked



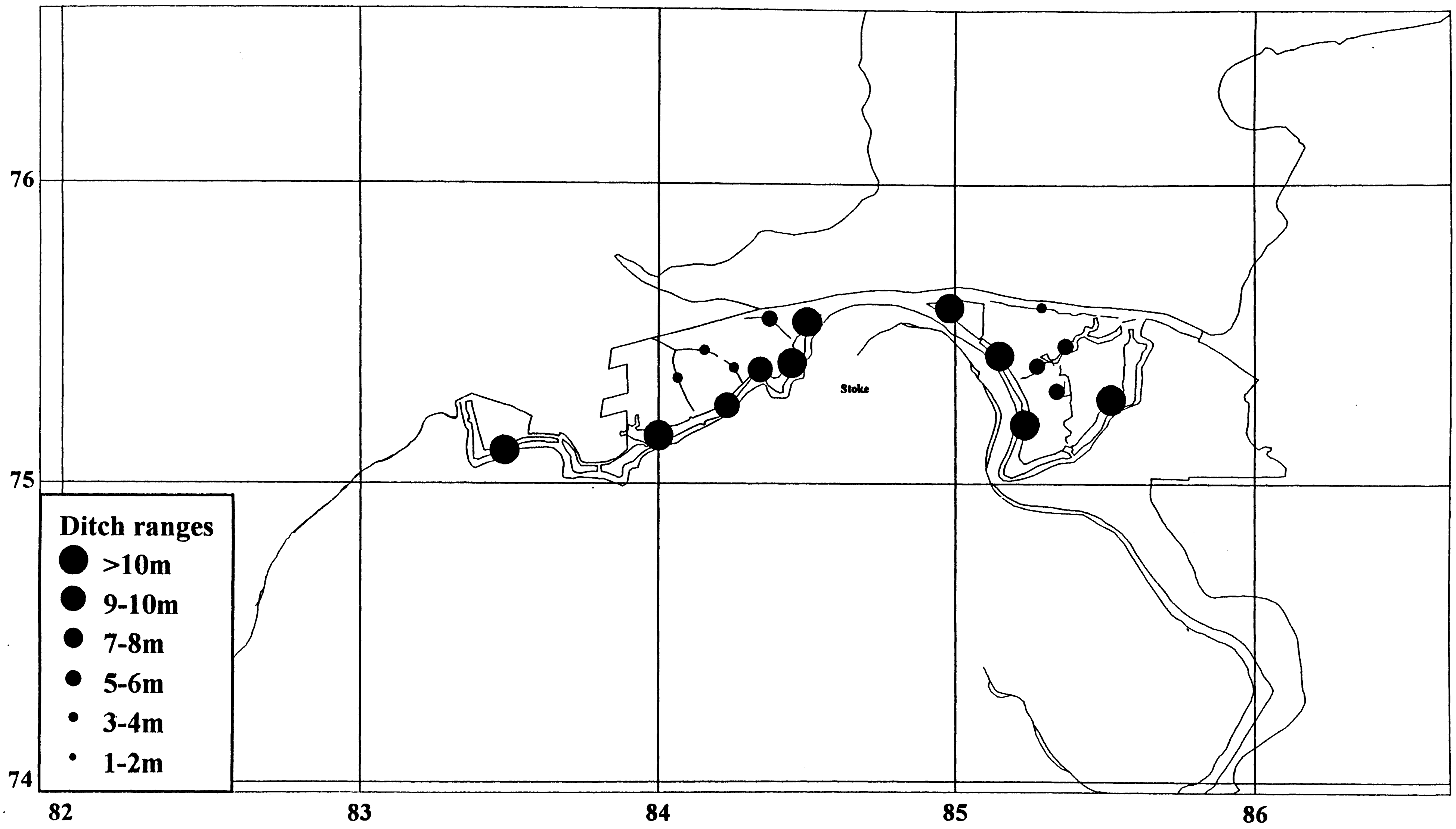
Ditch dry



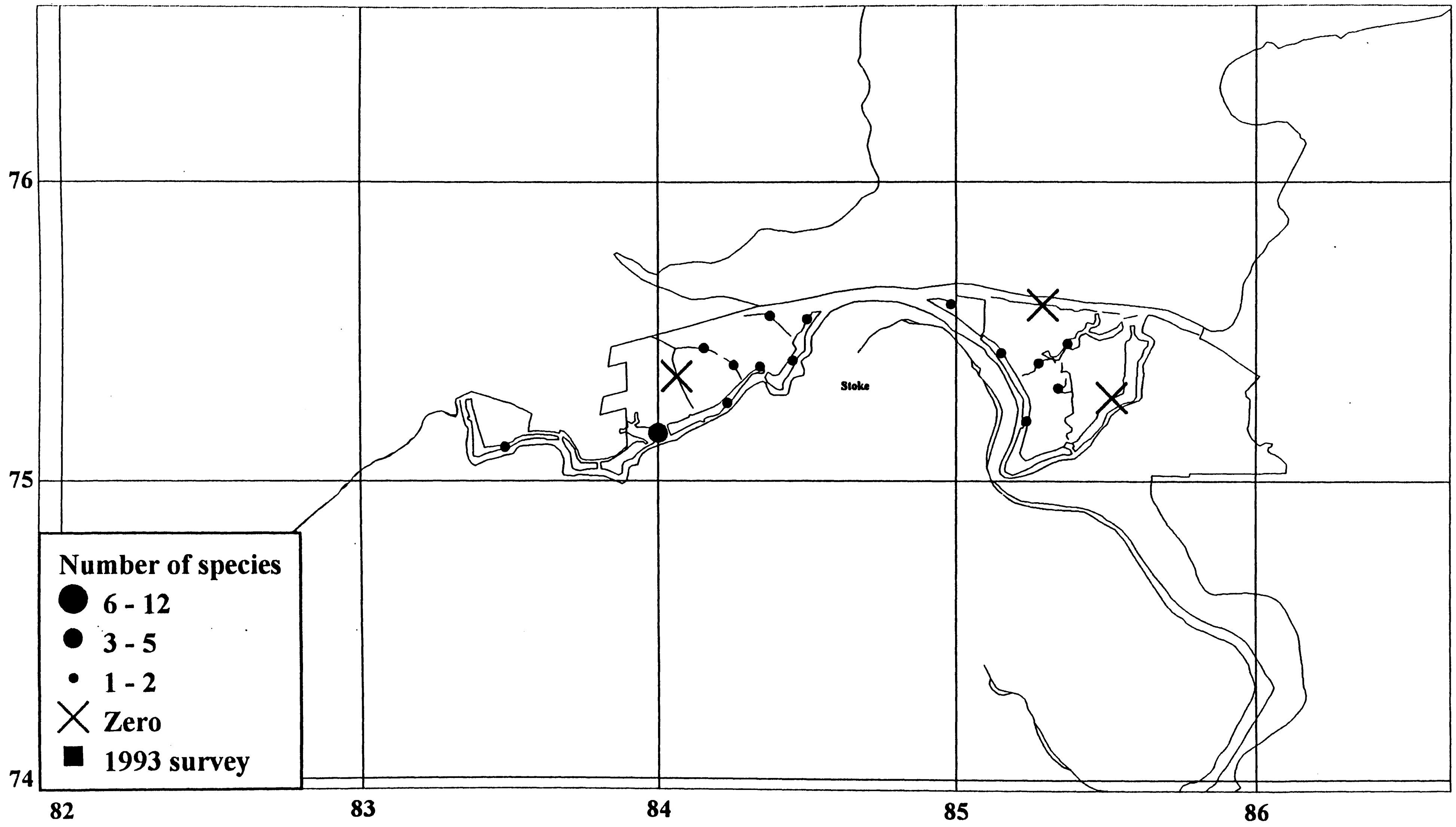
Conductivity values



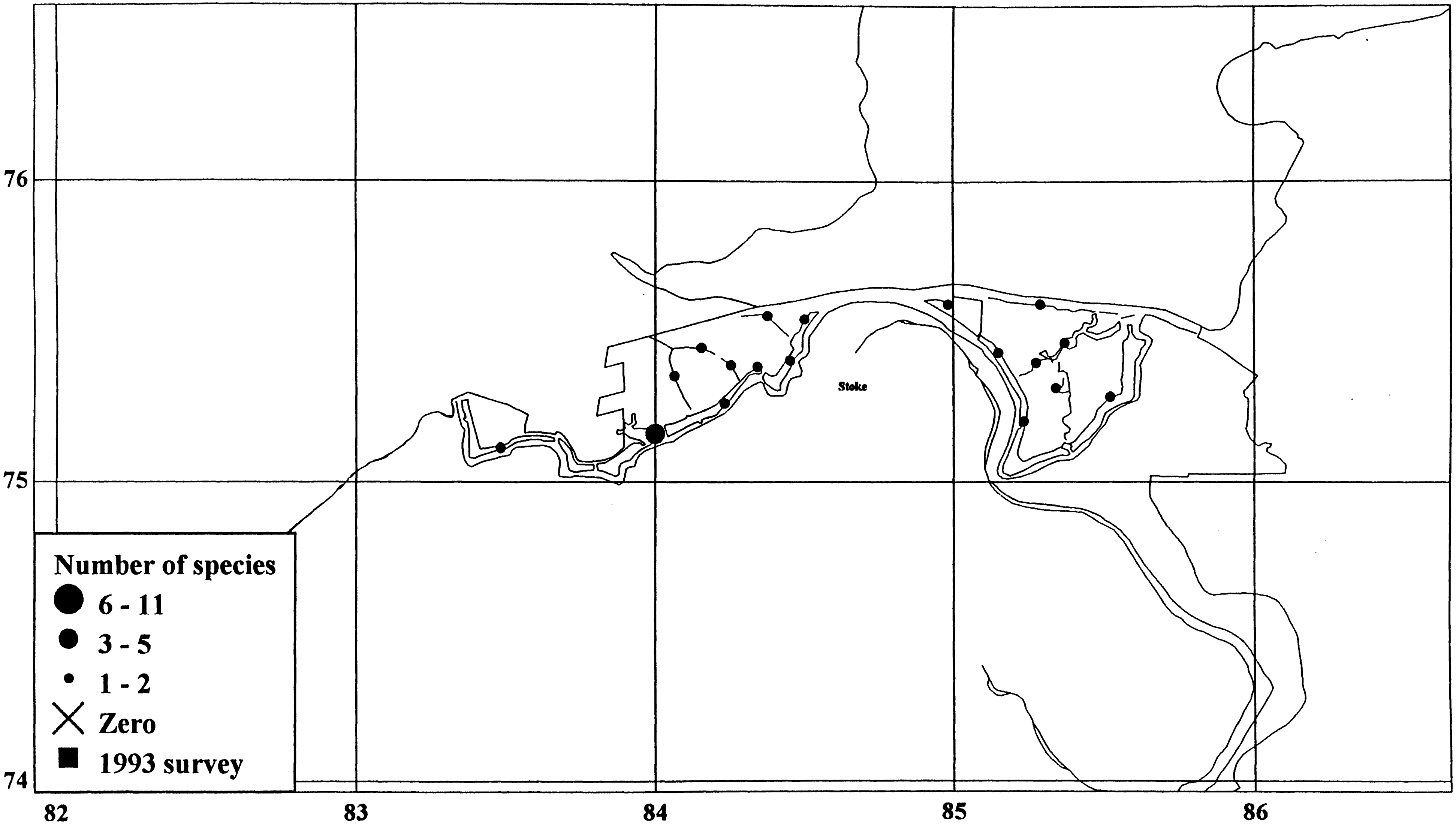
Ditch widths



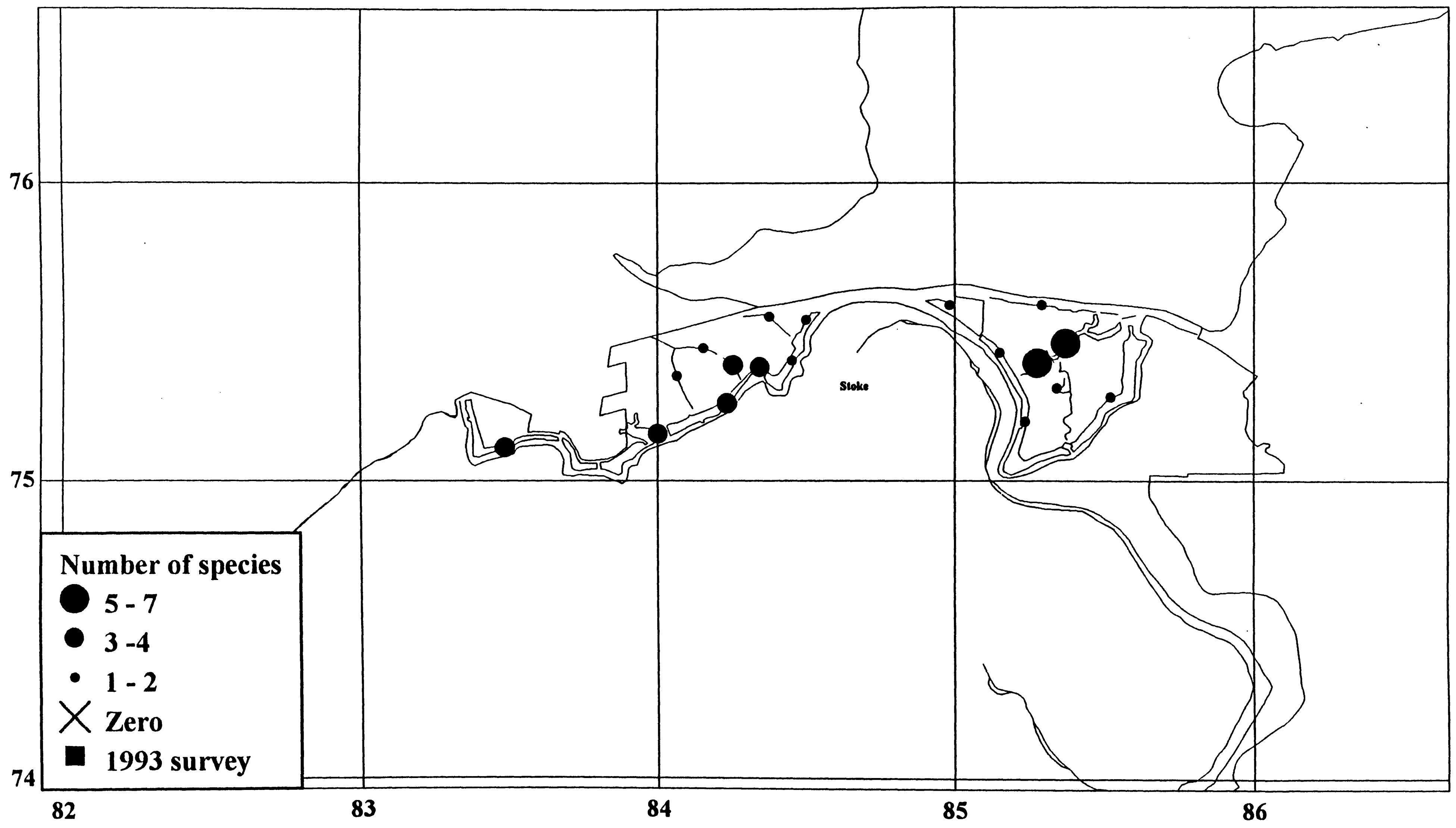
Number of aquatic species

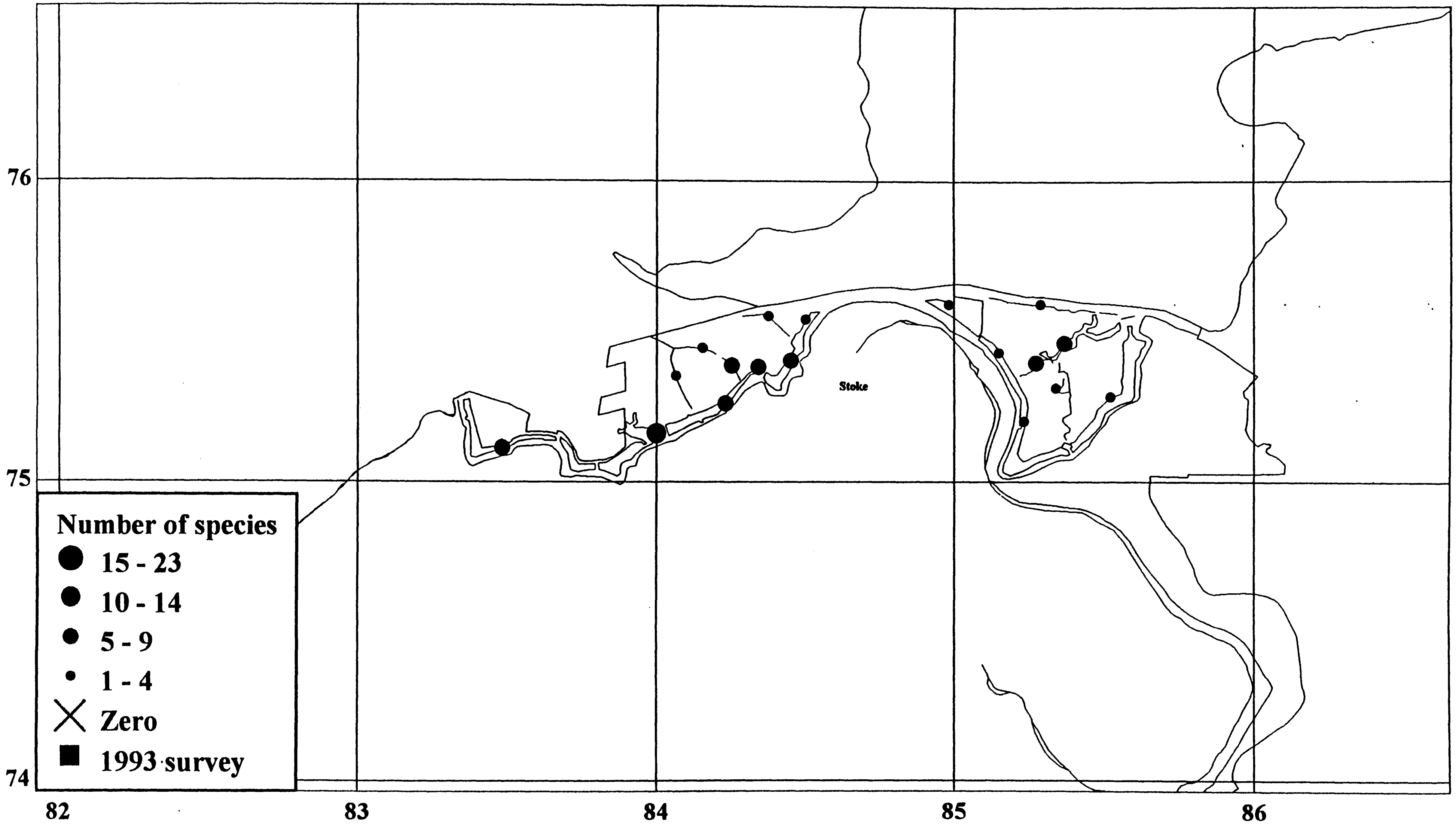


Number of emergent species



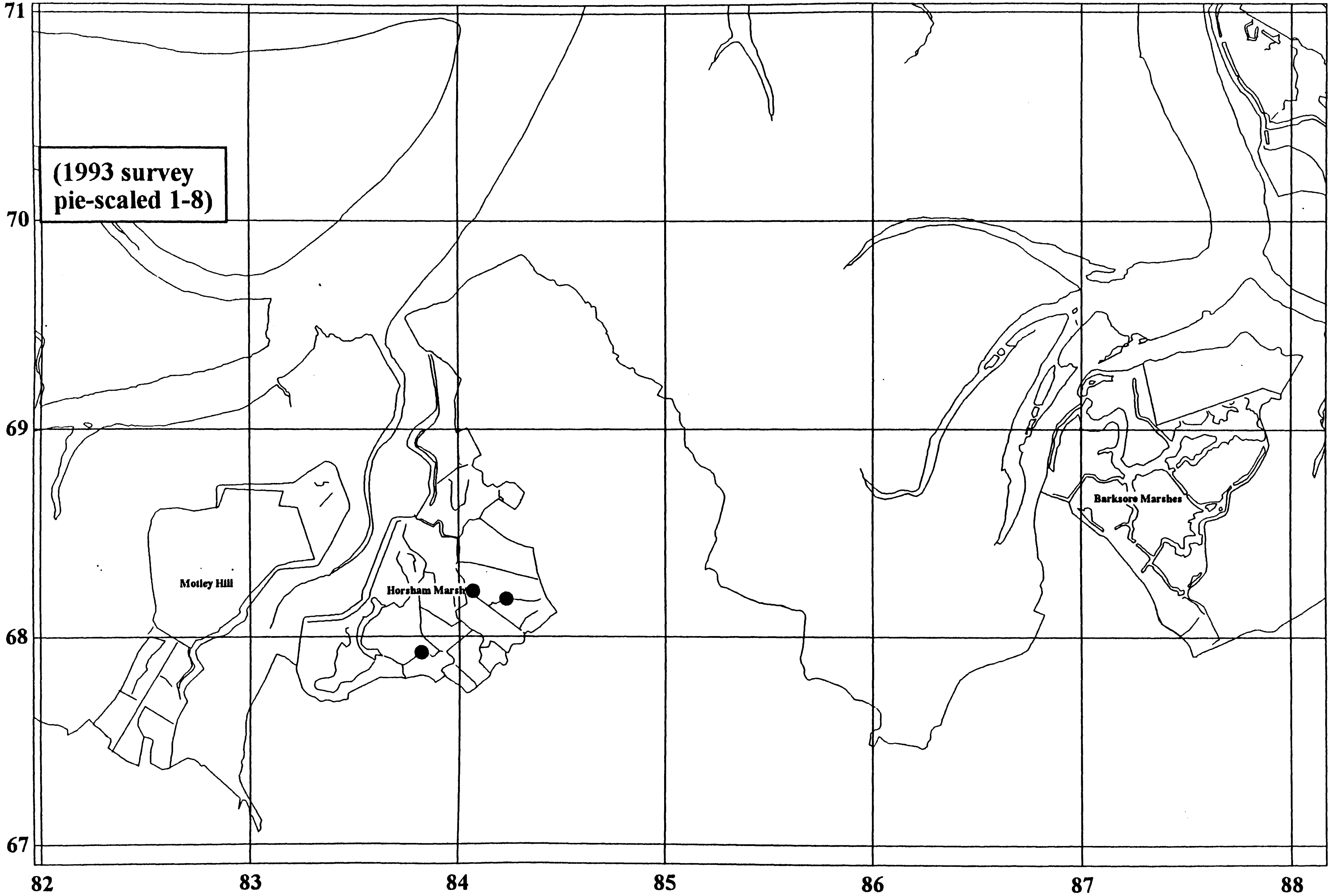
Number of bank species



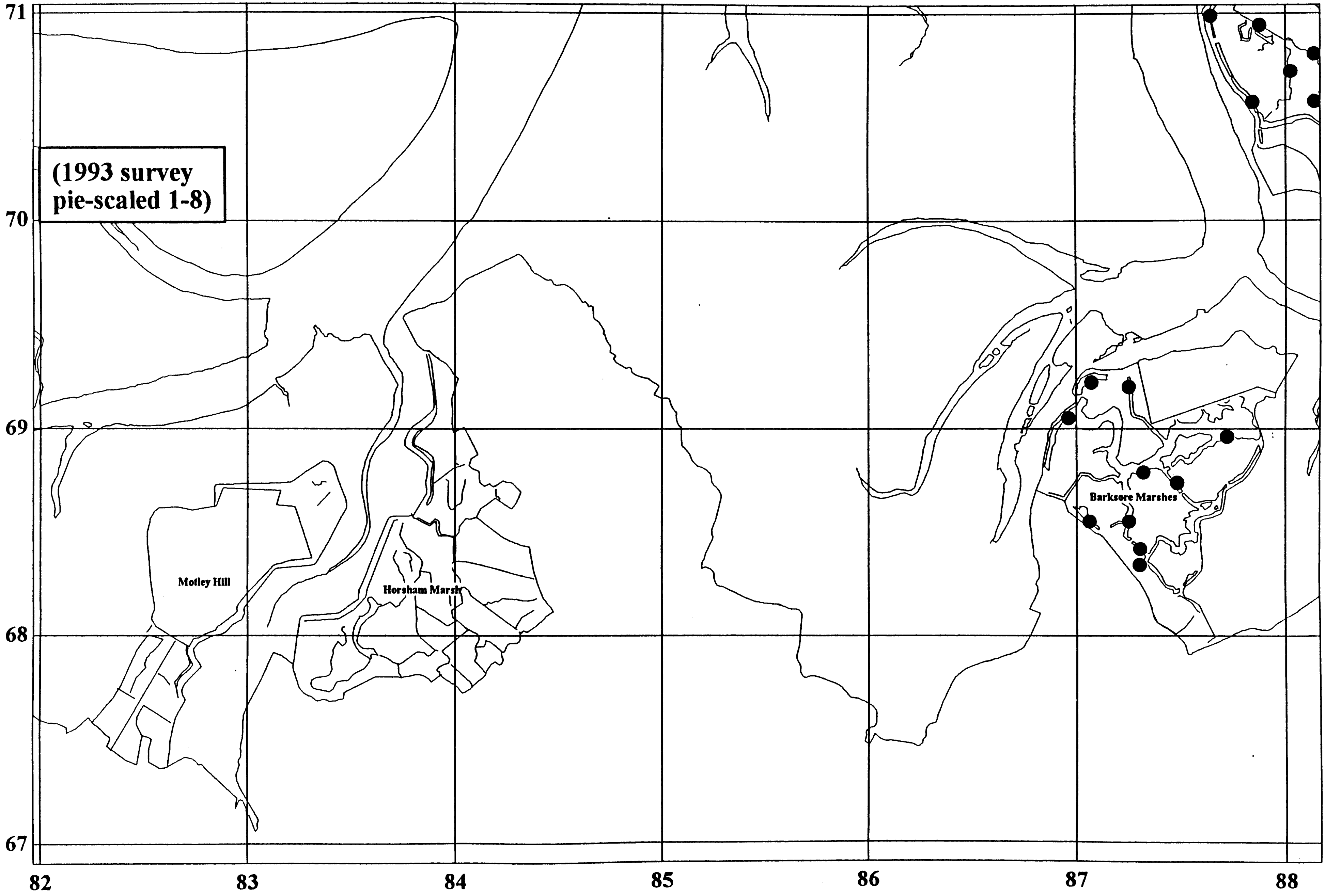


Total number of species

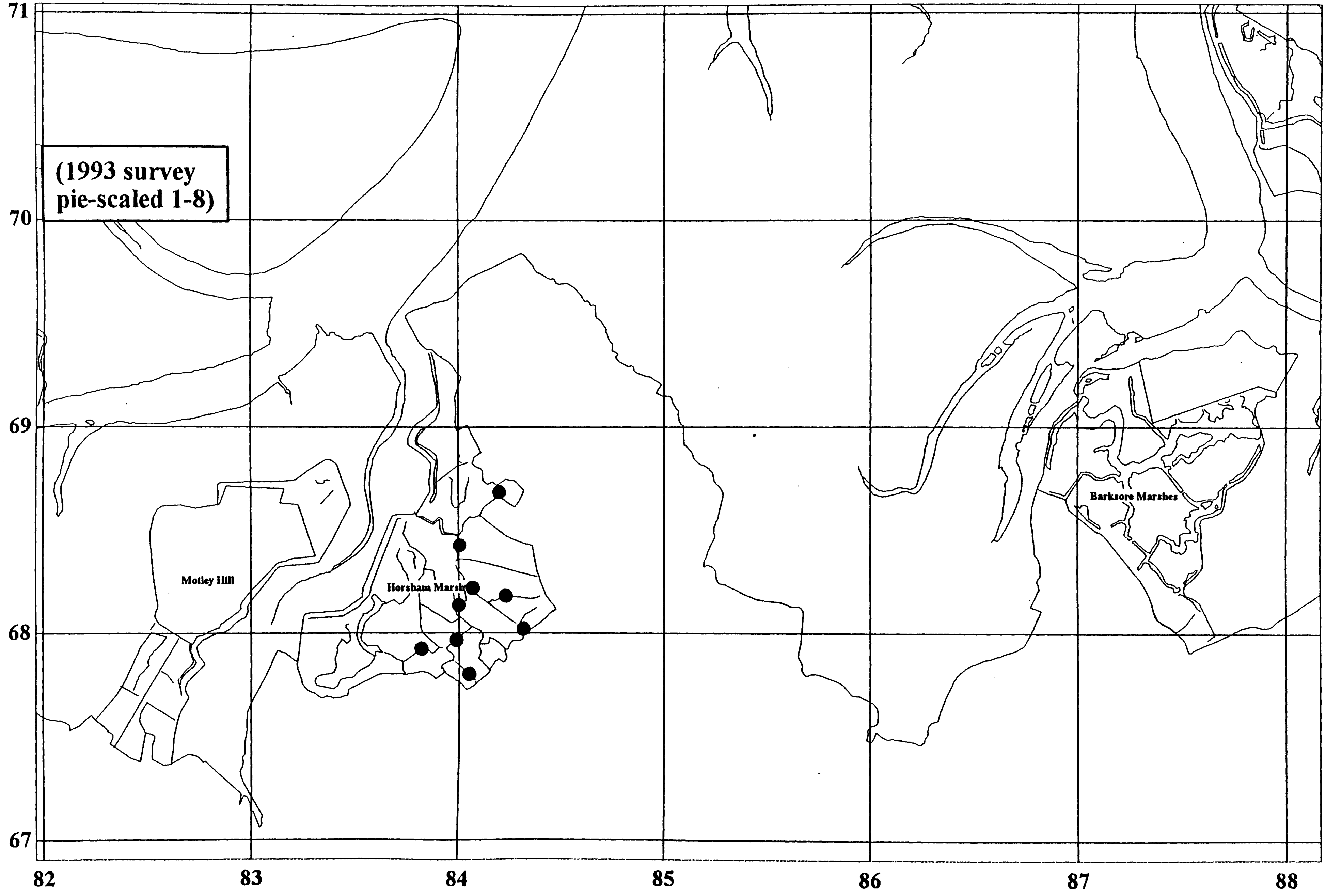
Ceratophyllum demersum



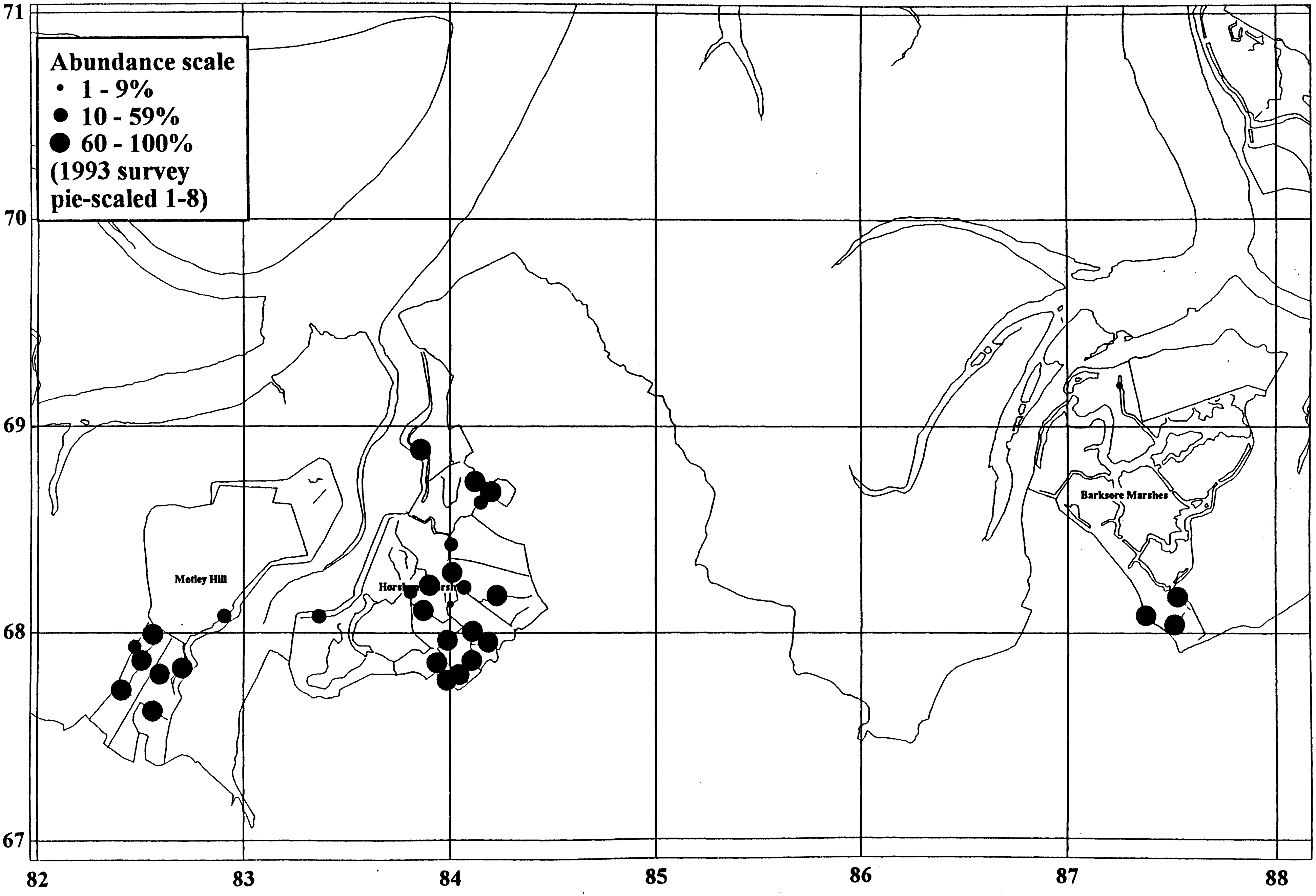
Potamogeton pectinatus



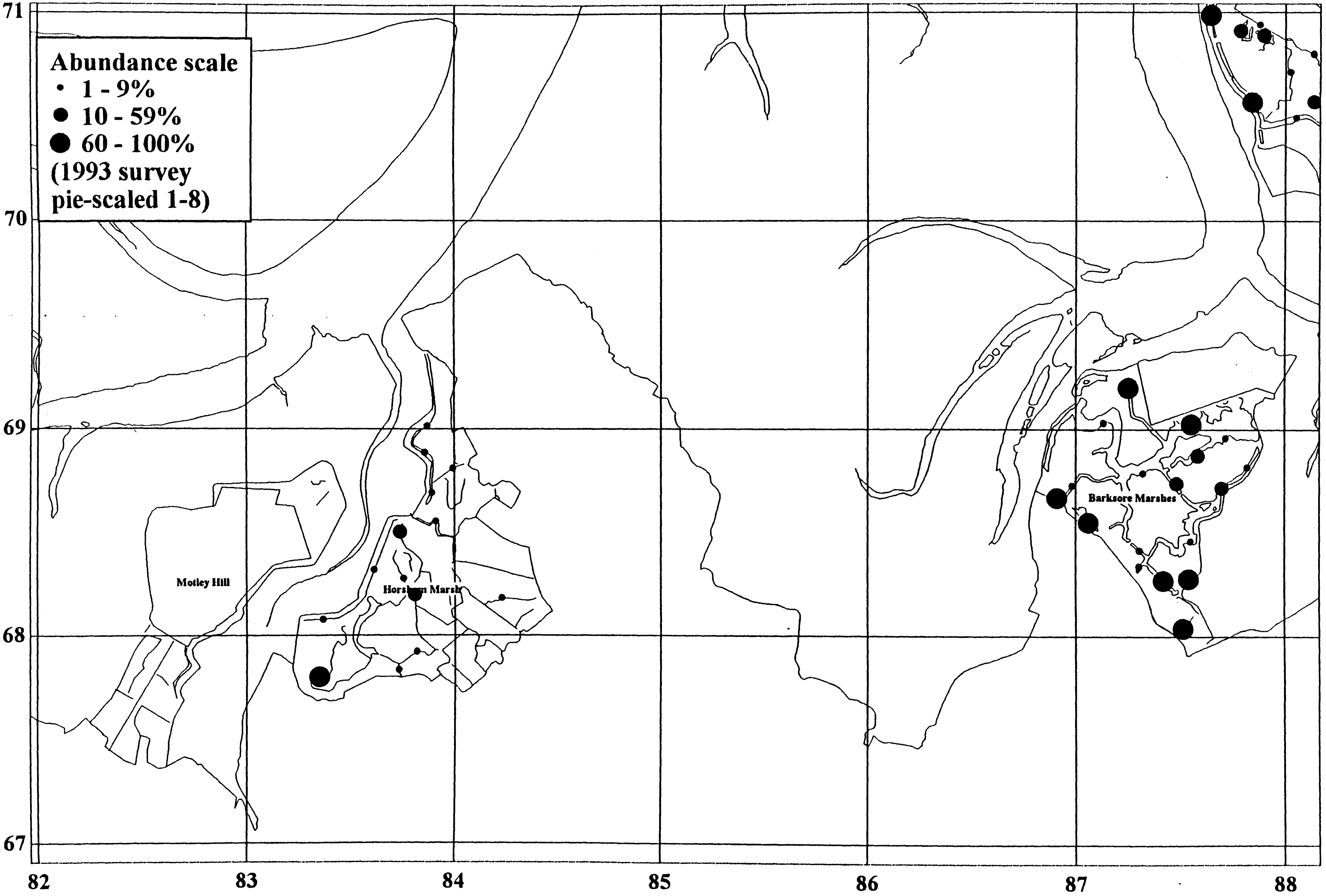
Berula erecta



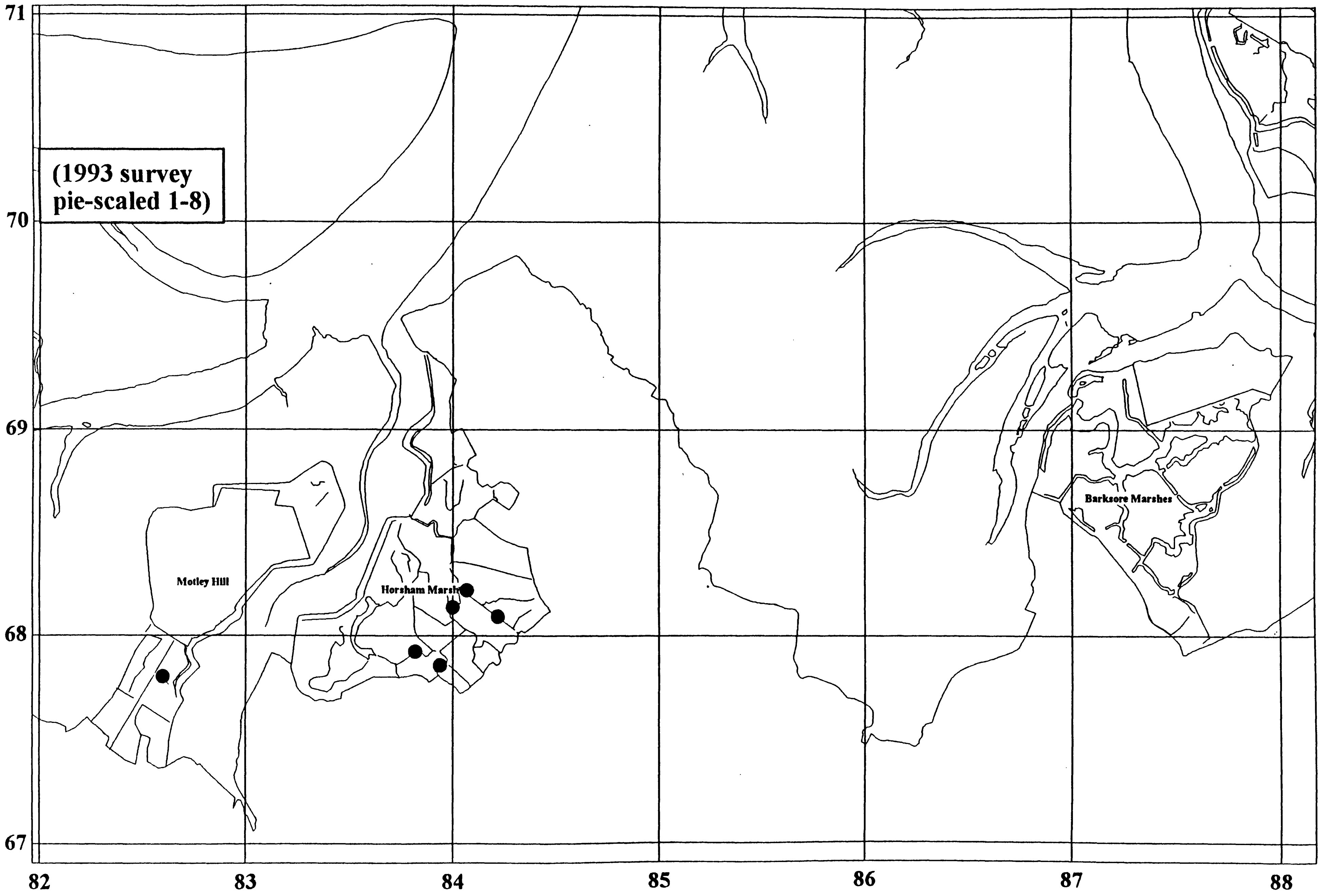
Phragmites australis



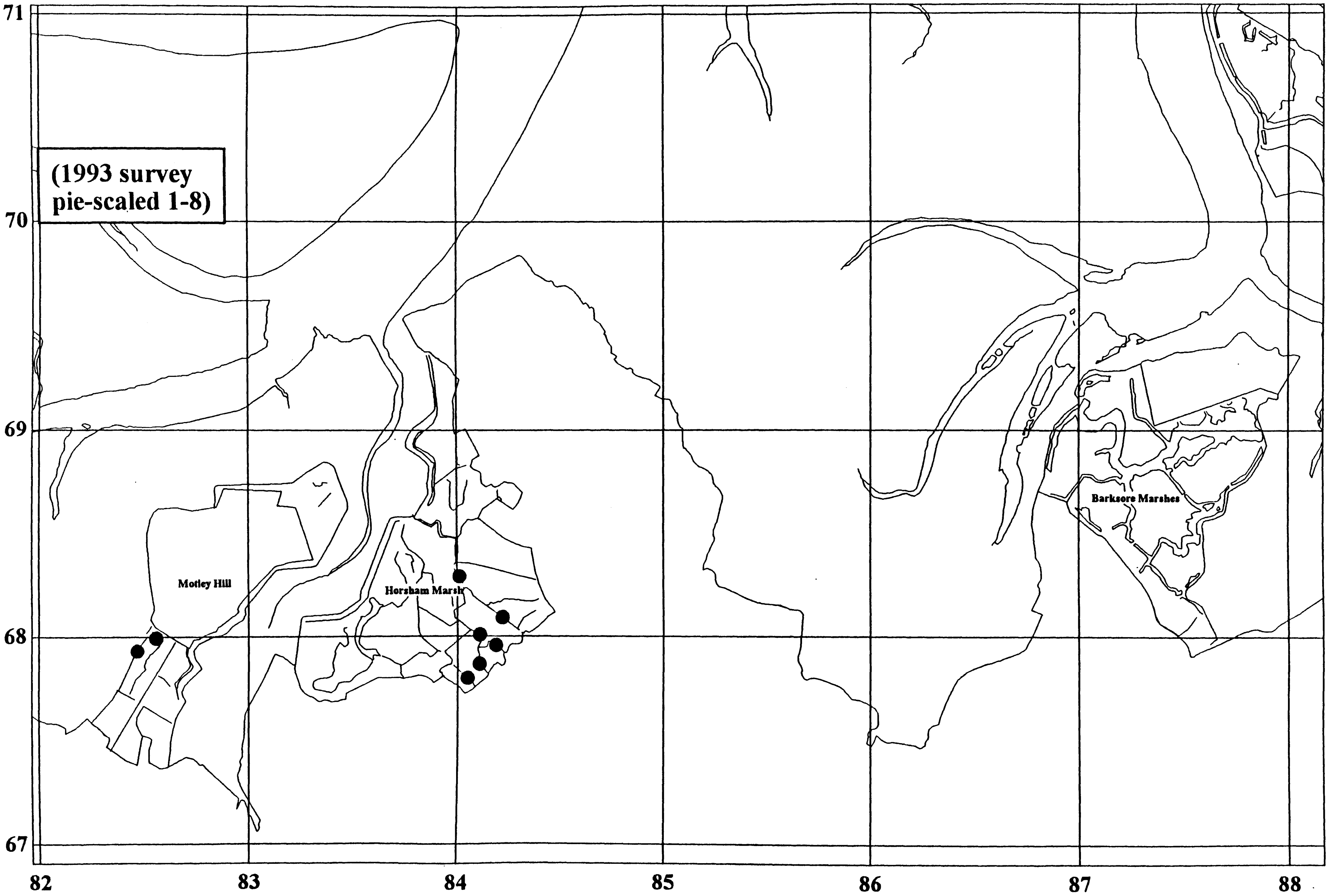
Scirpus maritimus



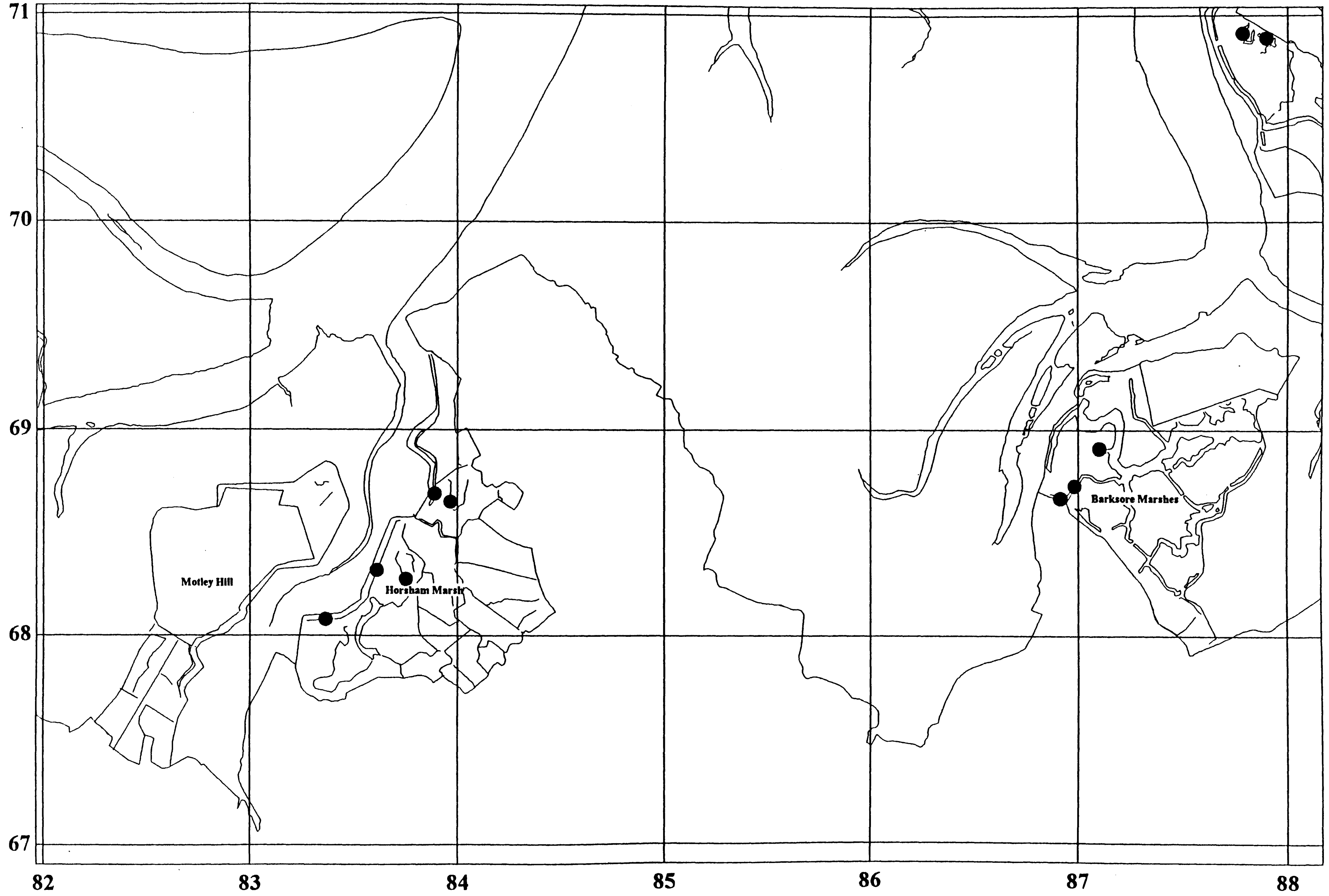
Sparganium erectum



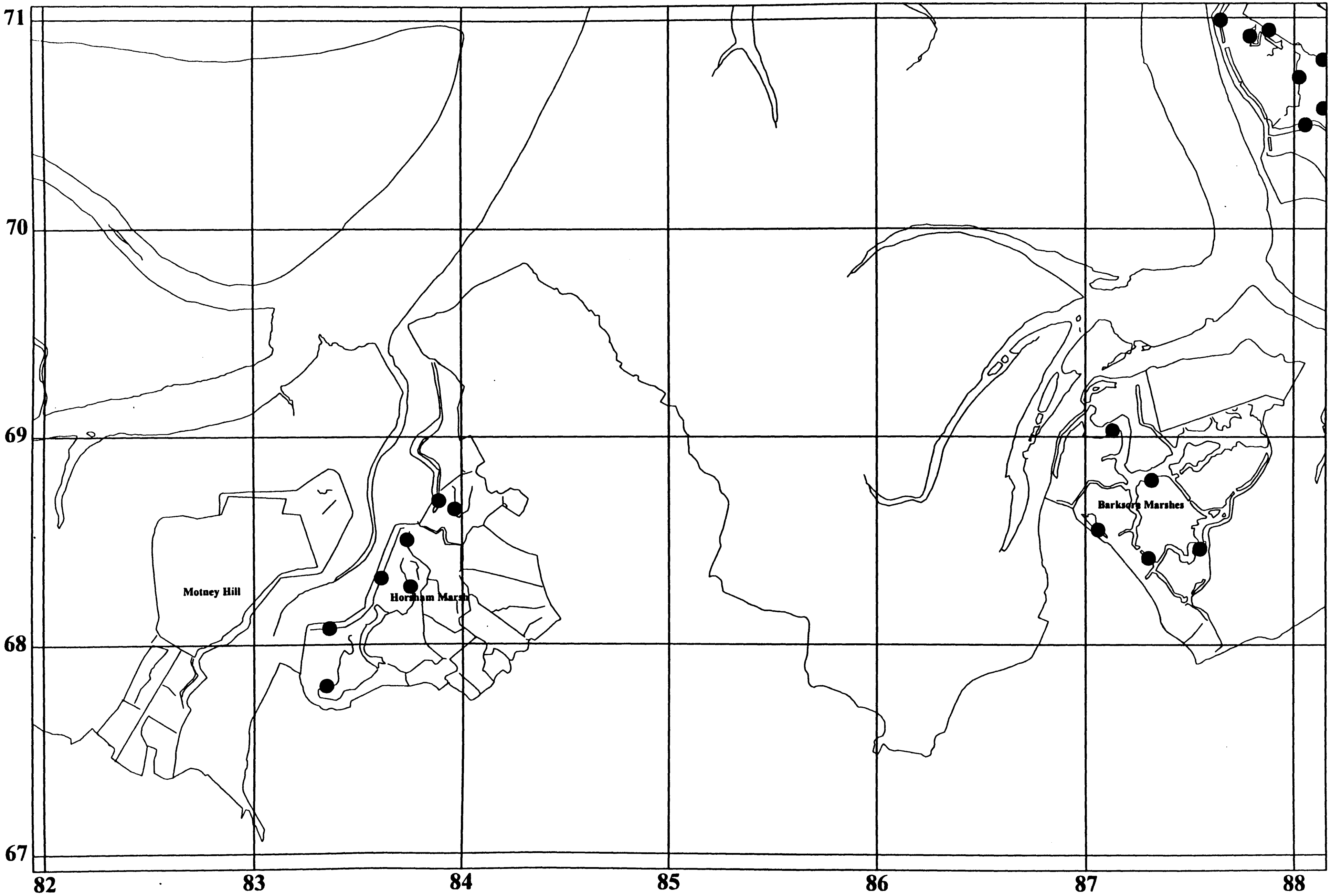
Typha latifolia



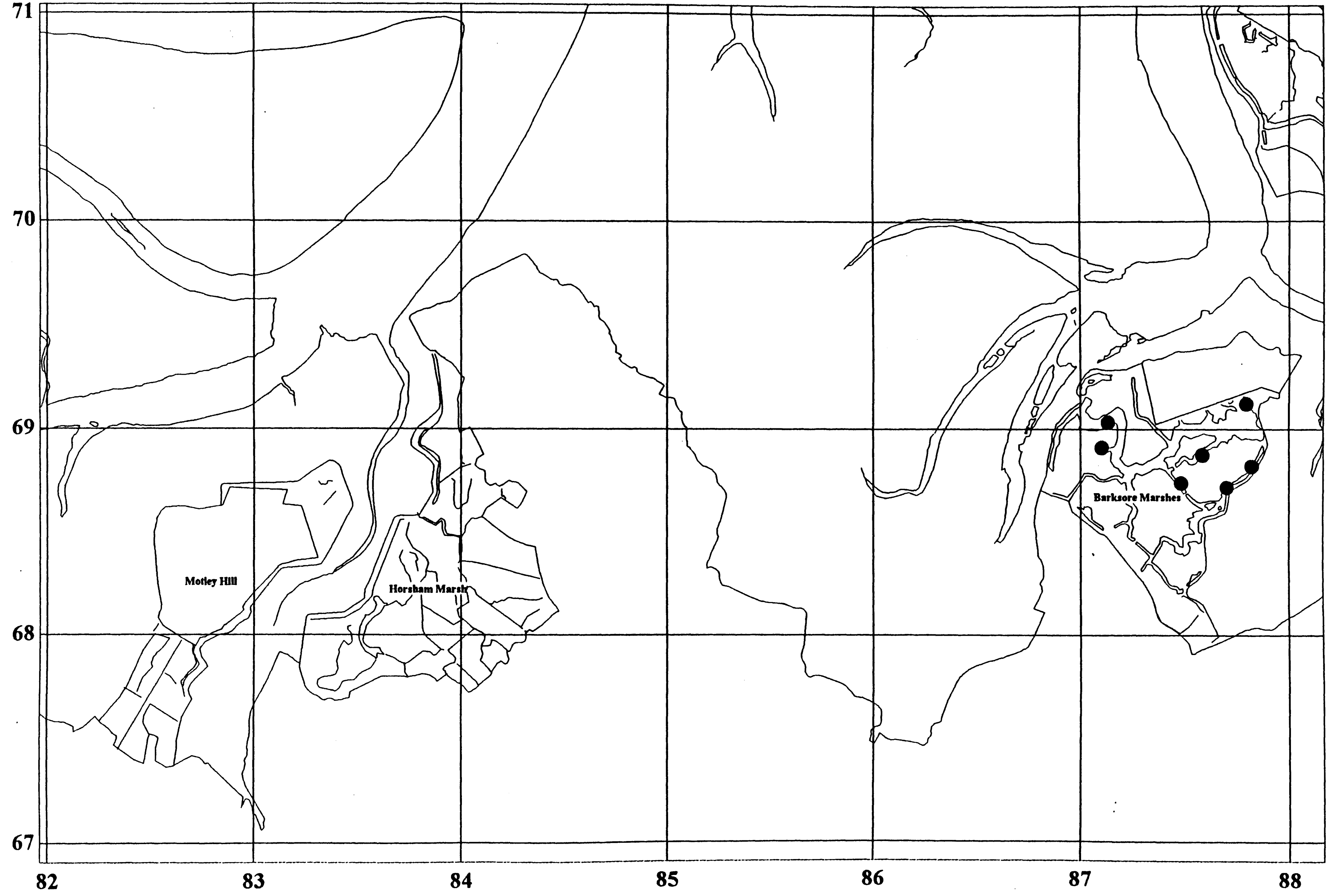
Chenopodium chenopodioides



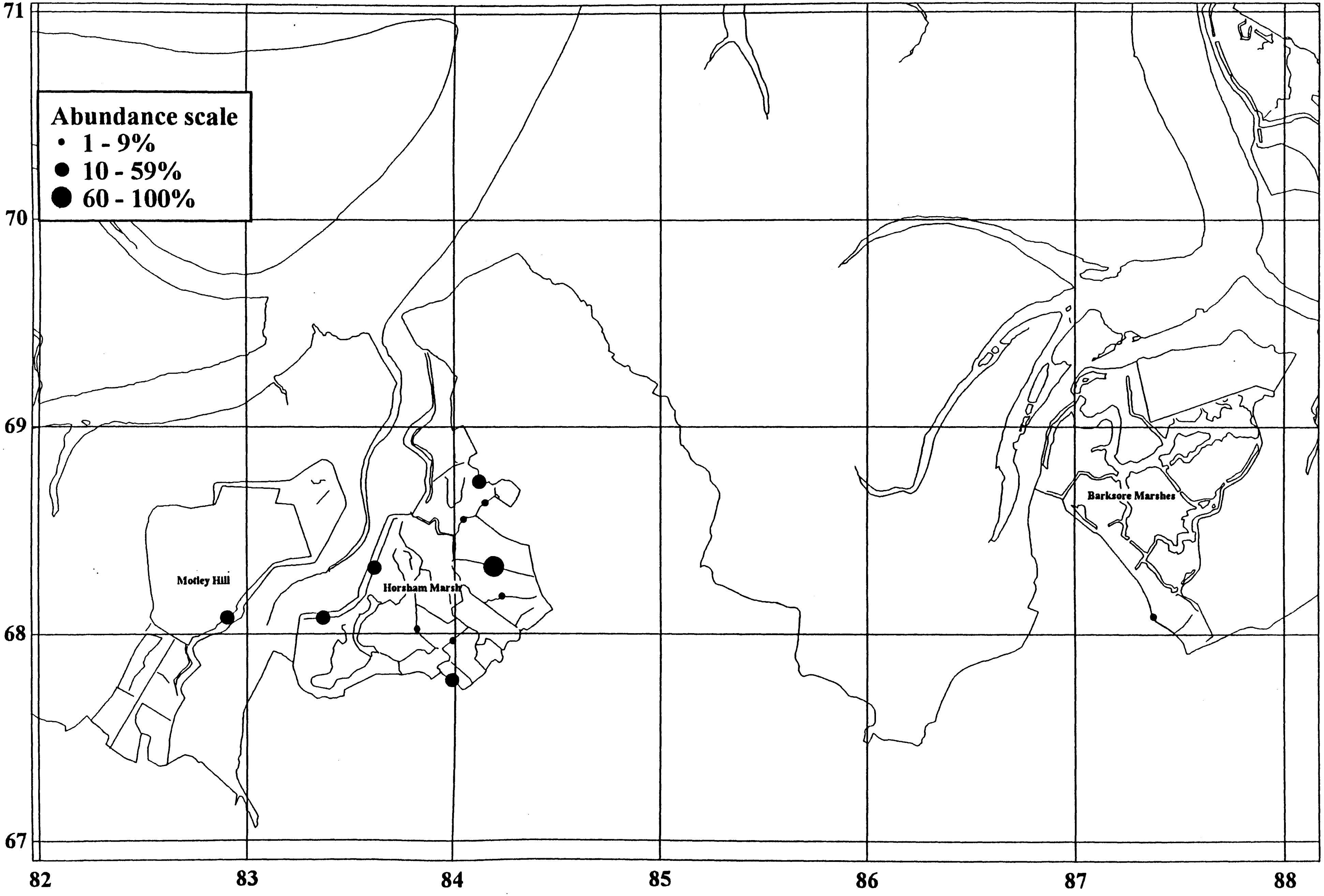
Juncus gerardii



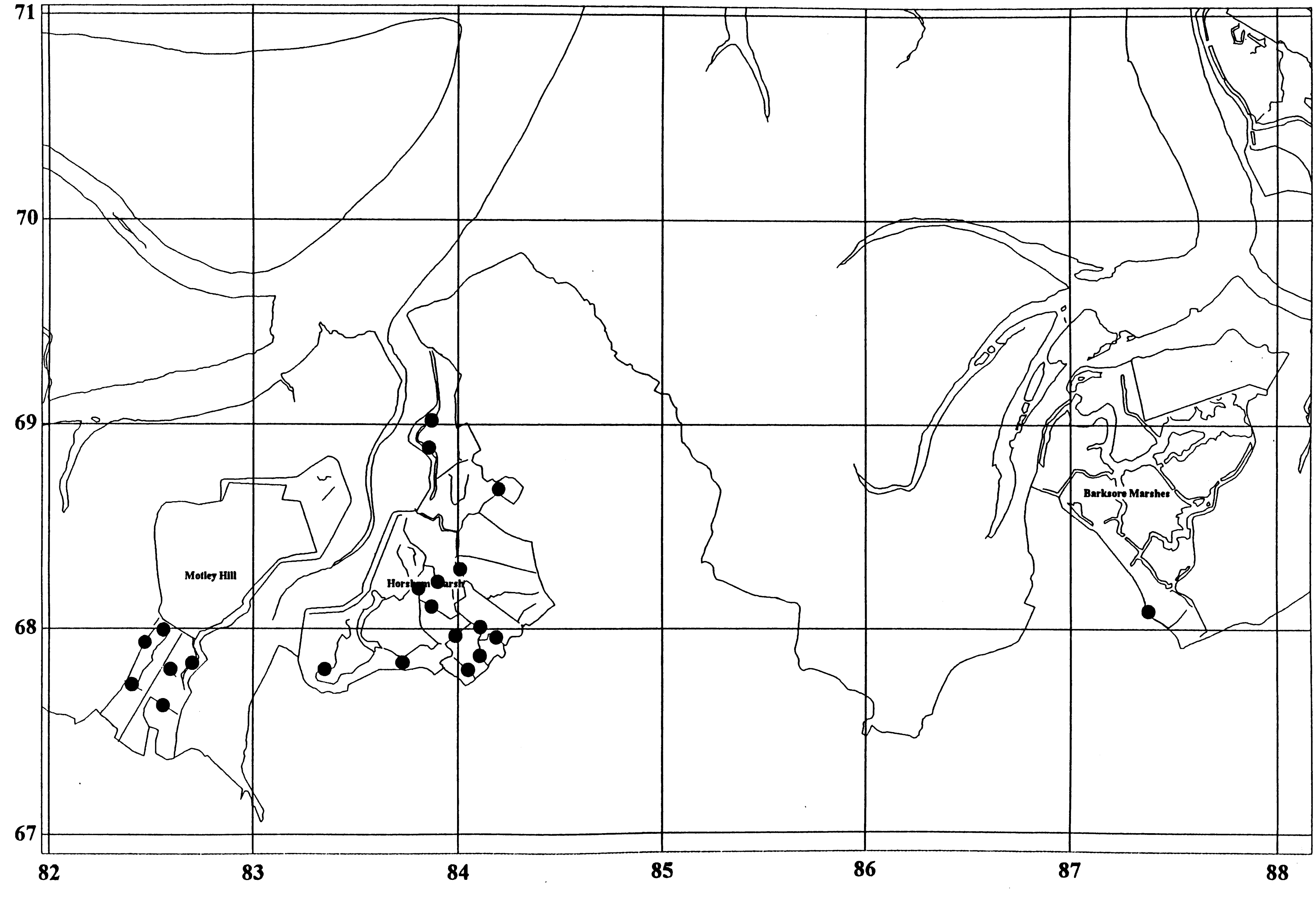
Salicornia sp.



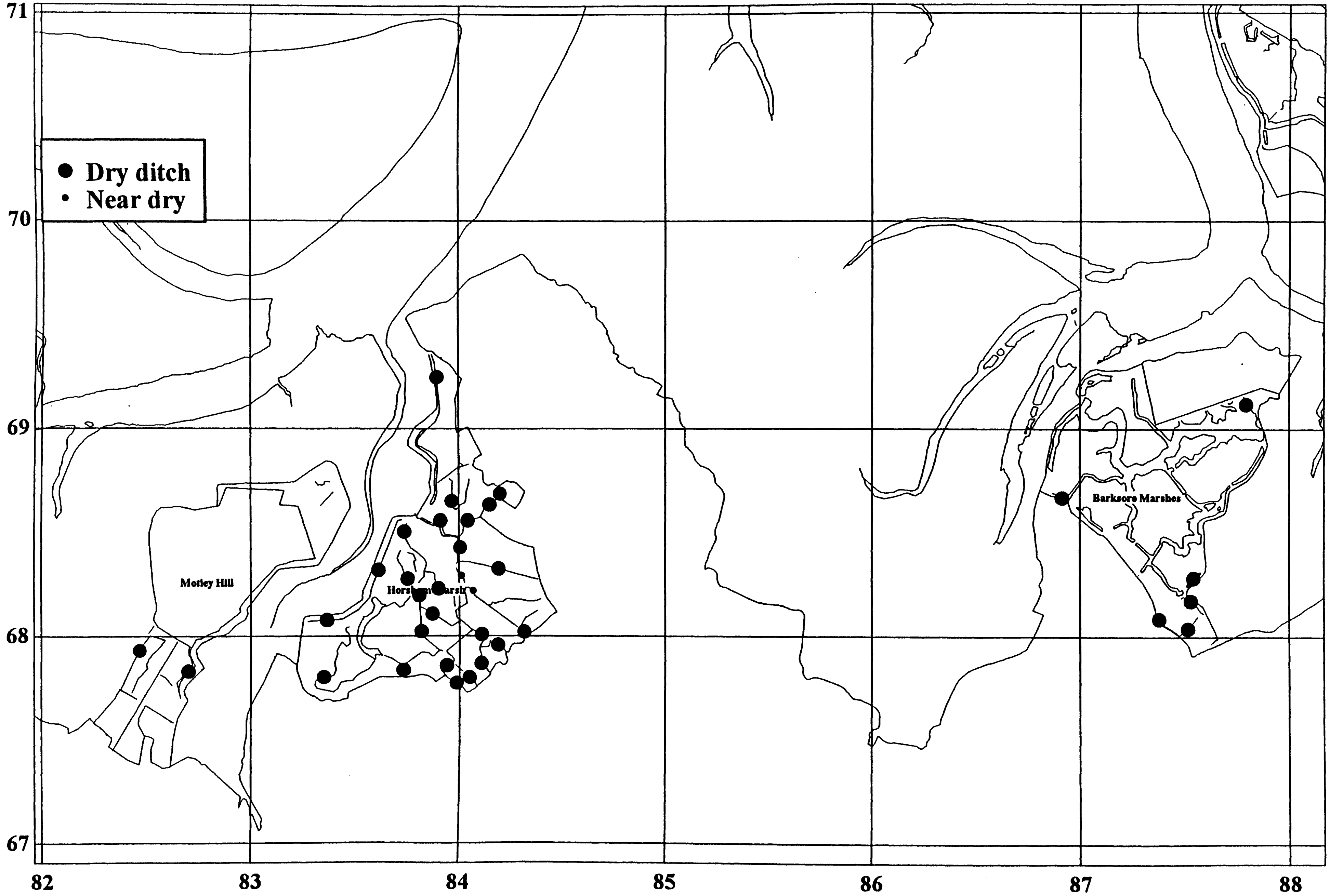
Scrub cover


Abundance scale
• 1 - 9%
● 10 - 59%
● 60 - 100%
Motley Hill
Horsham Marsh
Barksore Marshes
71
70
69
68
67
82
83
84
85
86
87
88

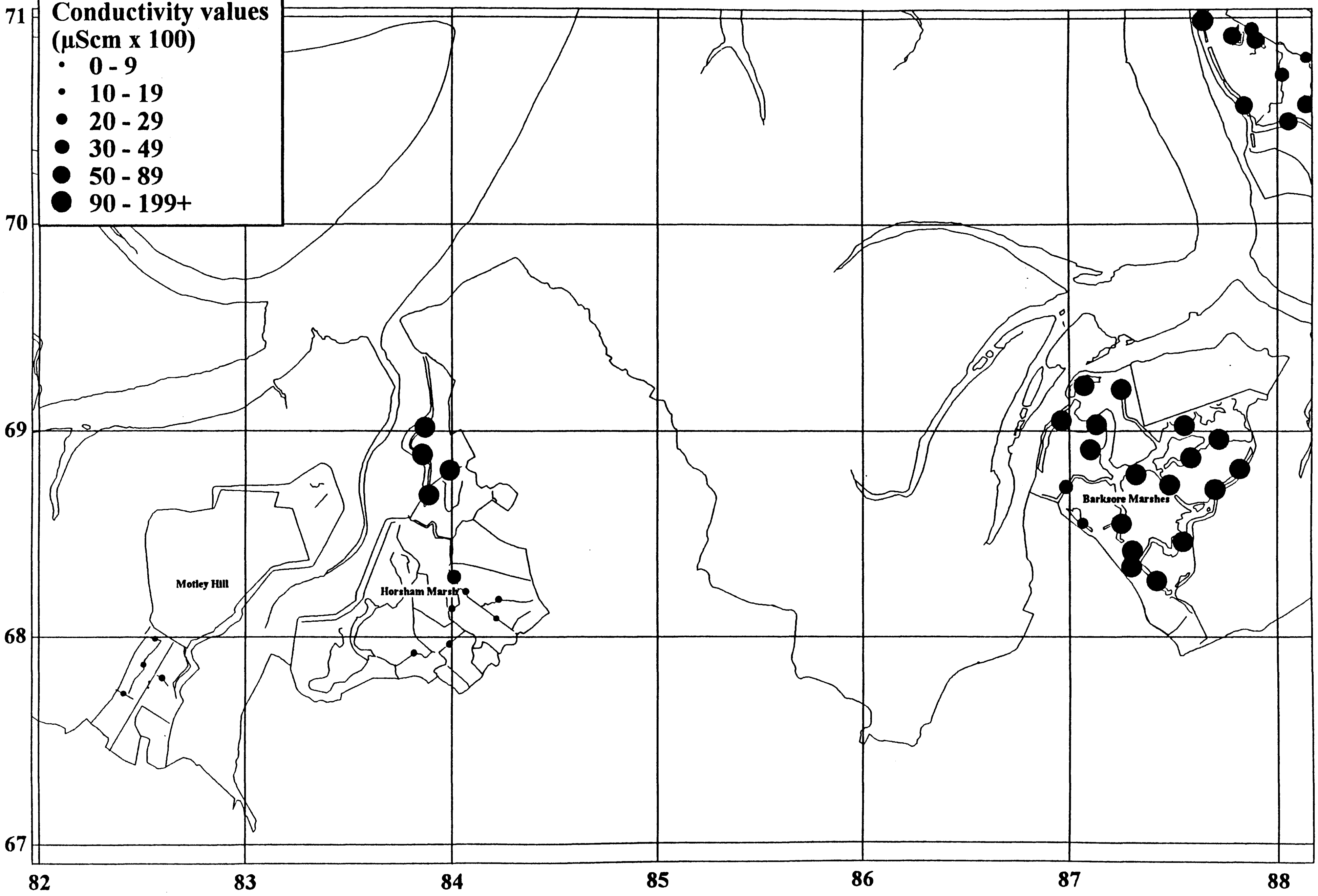
Ditch choked



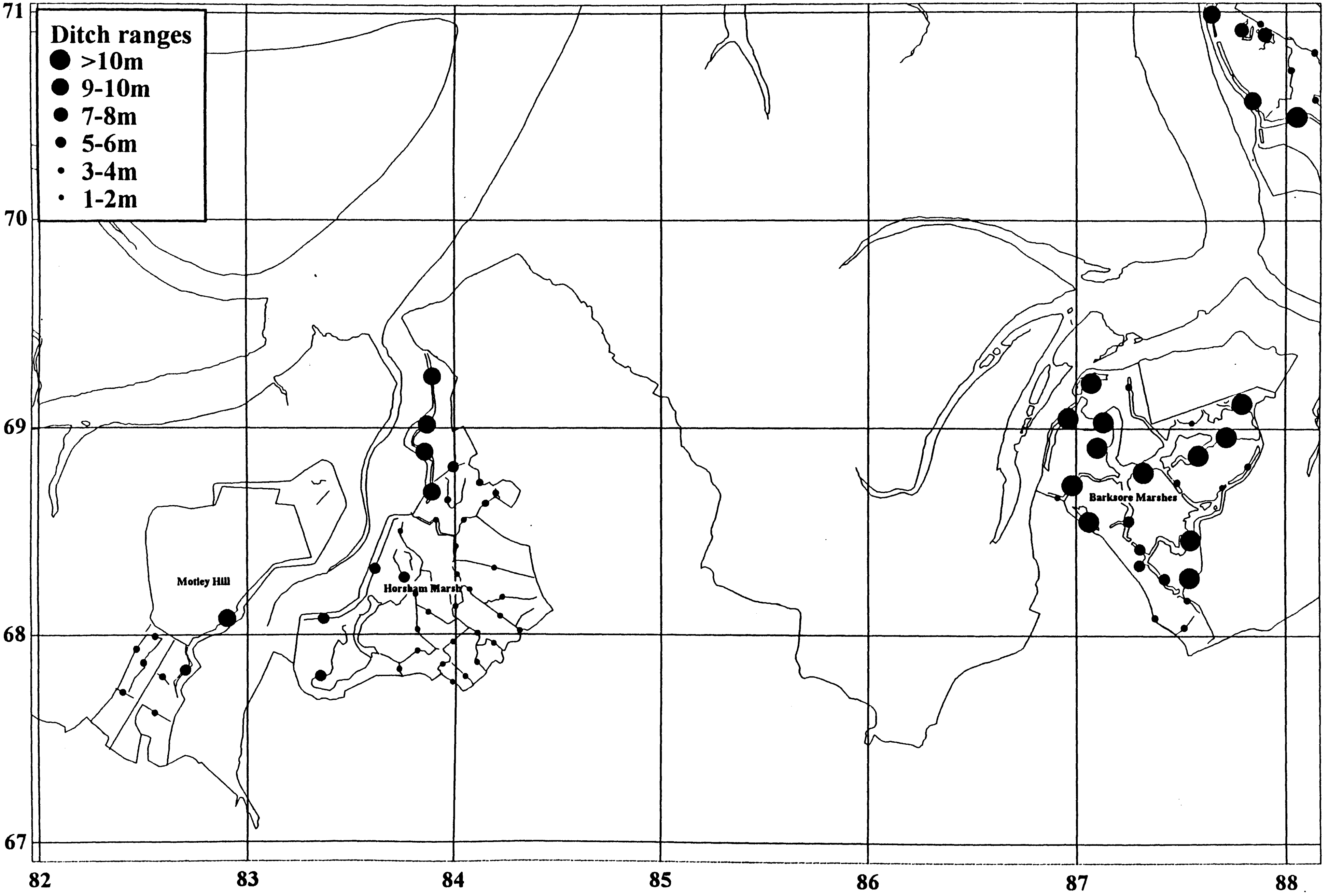
Ditch dry


● Dry ditch
• Near dry
Motley Hill
Horsham Marsh
Barksore Marshes
71
70
69
68
67
82
83
84
85
86
87
88

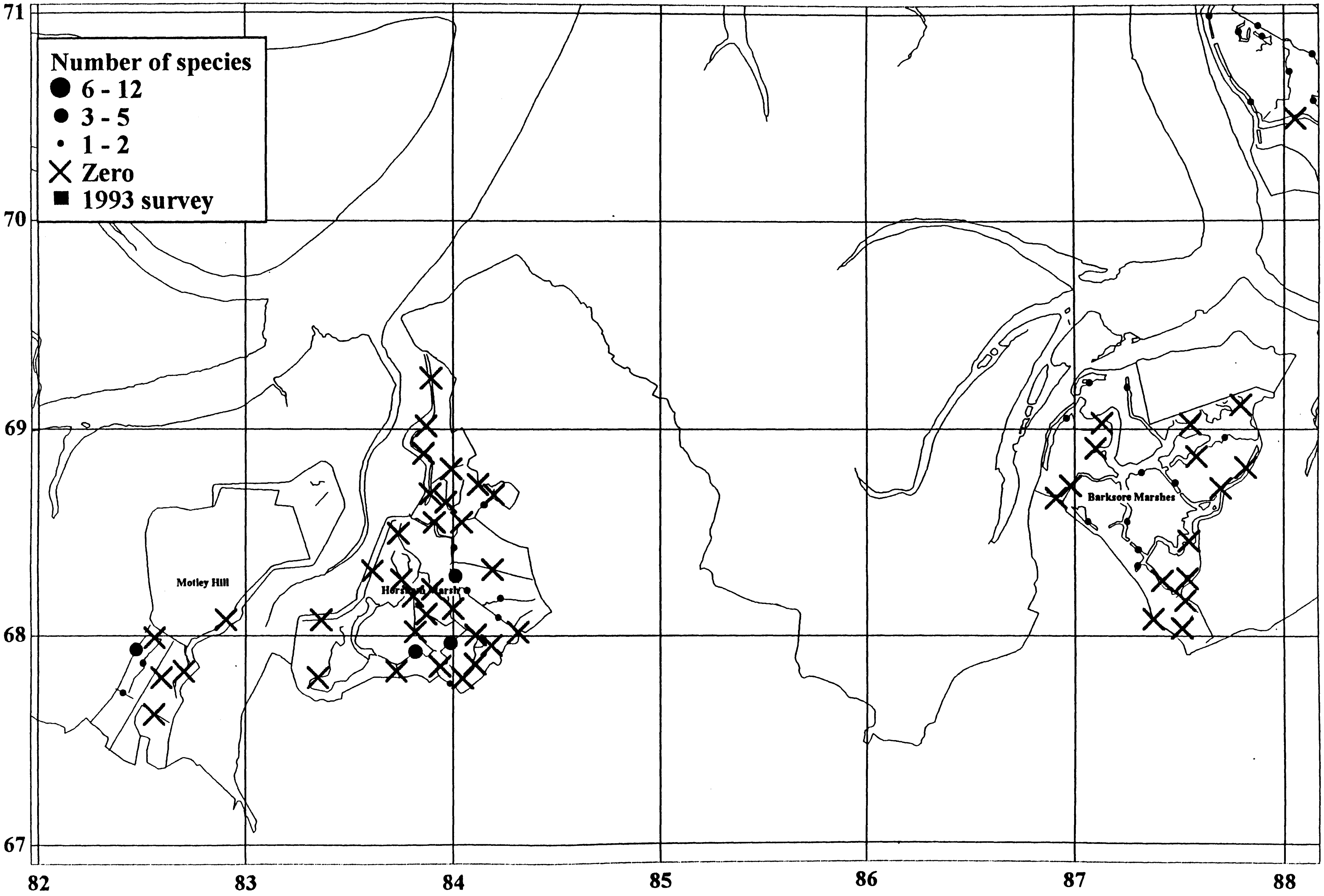
Conductivity values



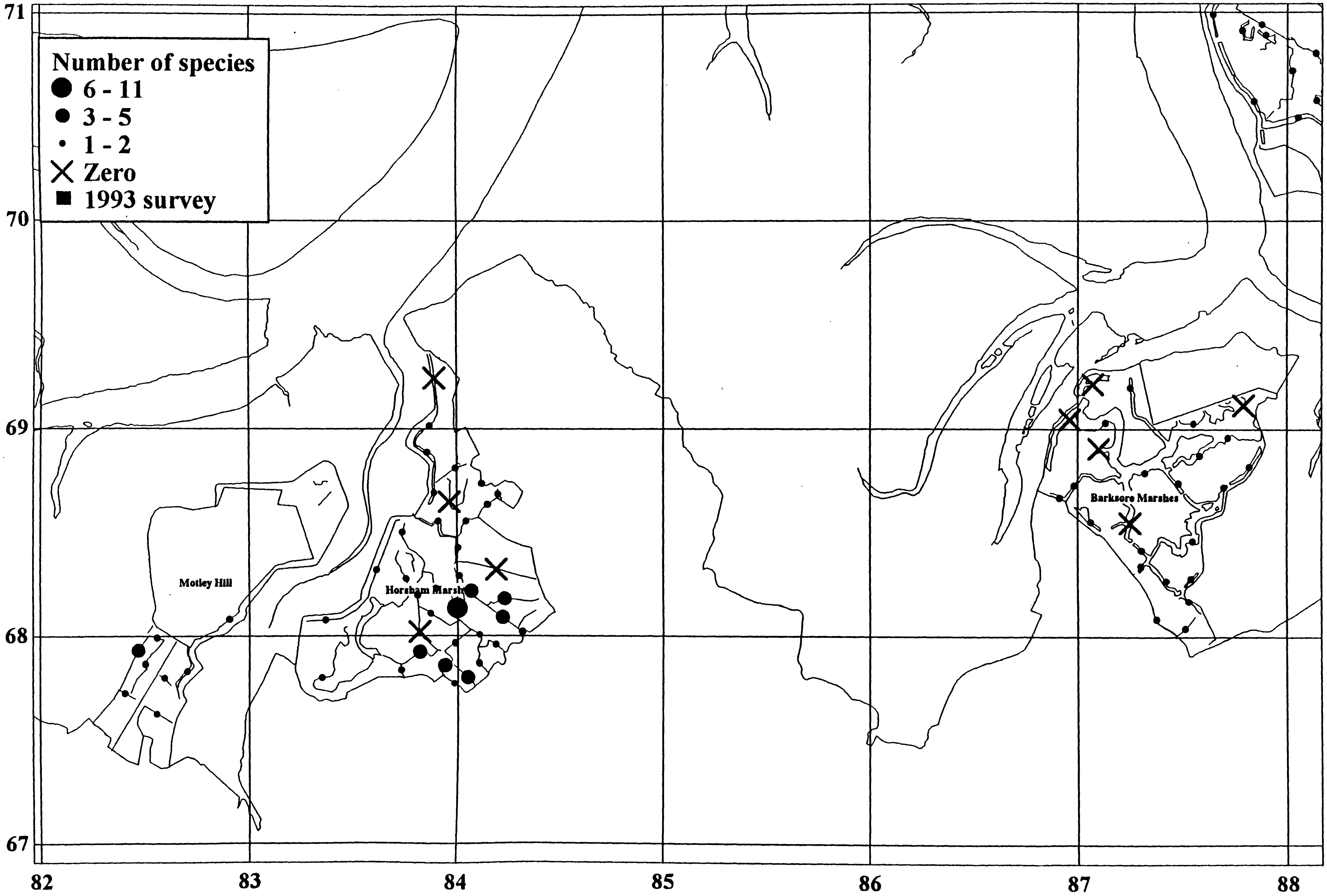
Ditch widths



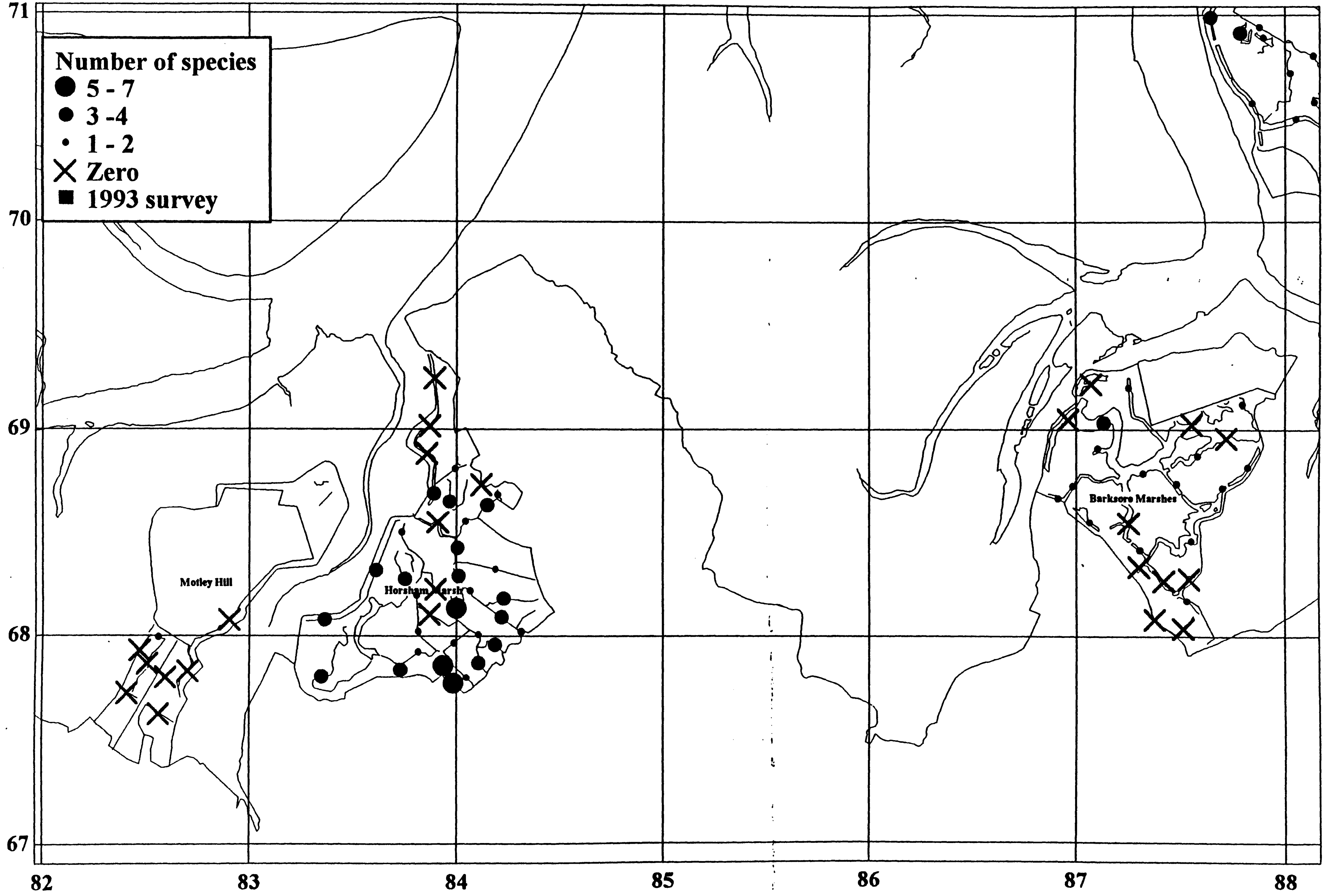
Number of aquatic species



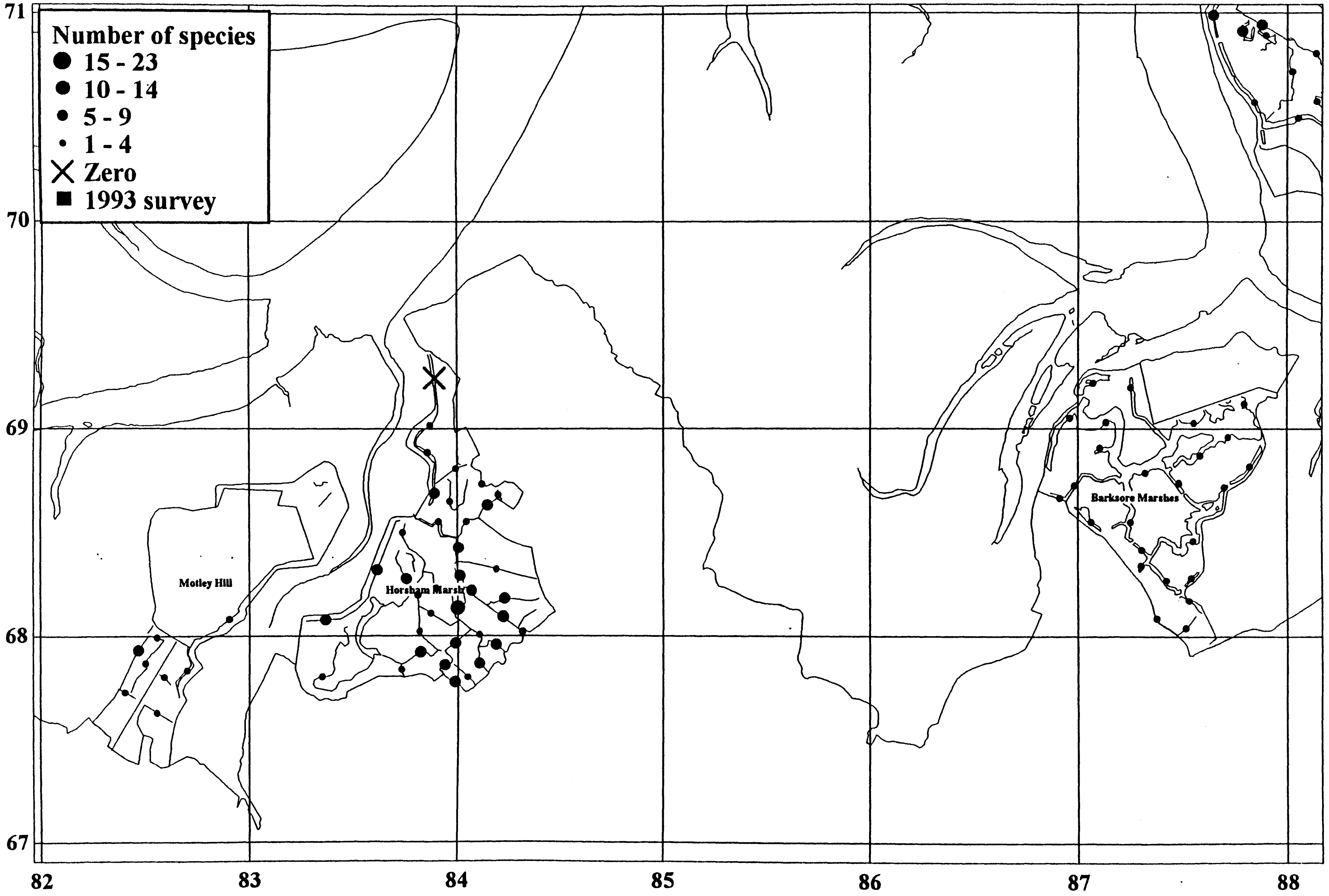
Number of emergent species



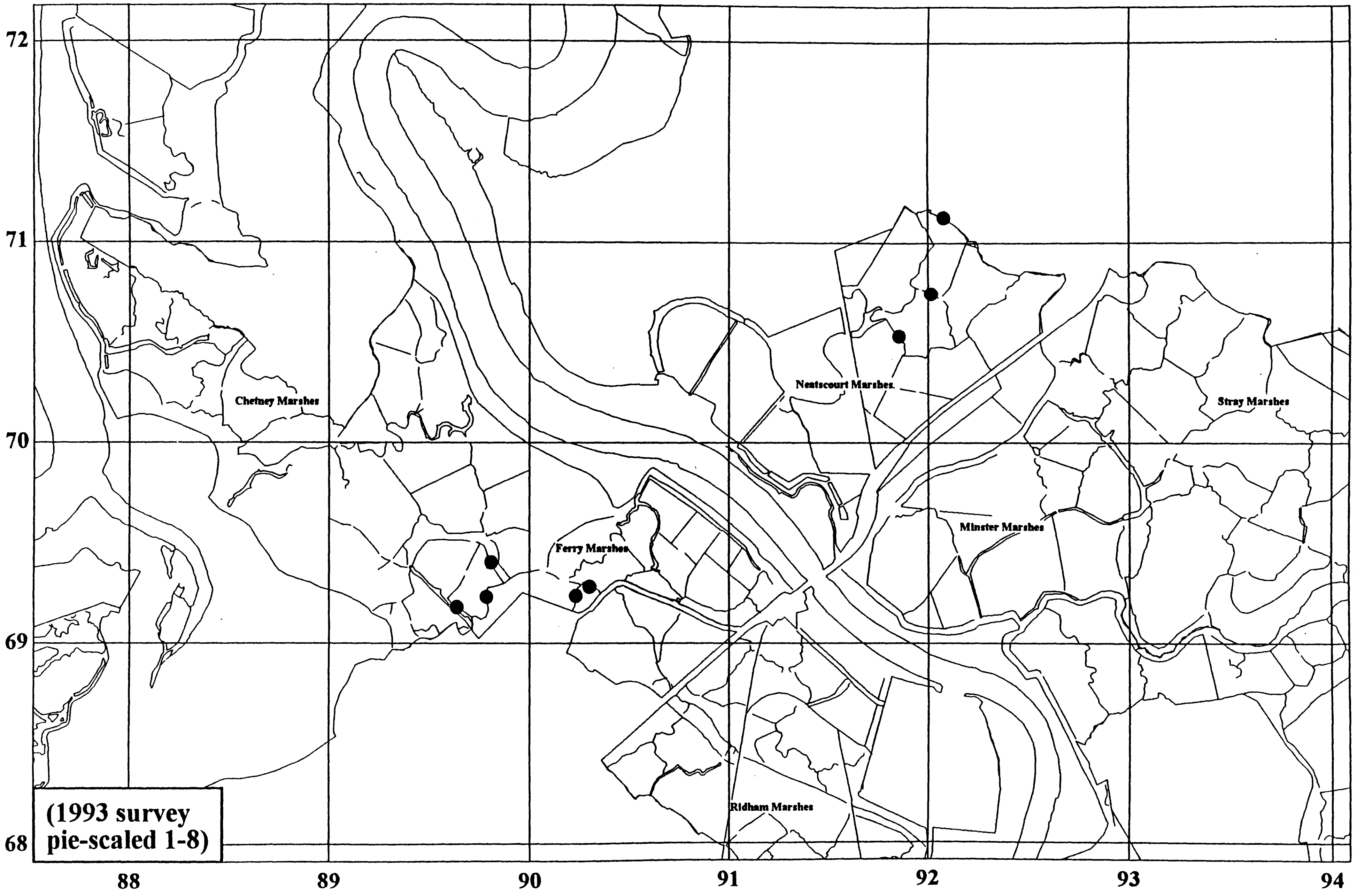
Number of bank species



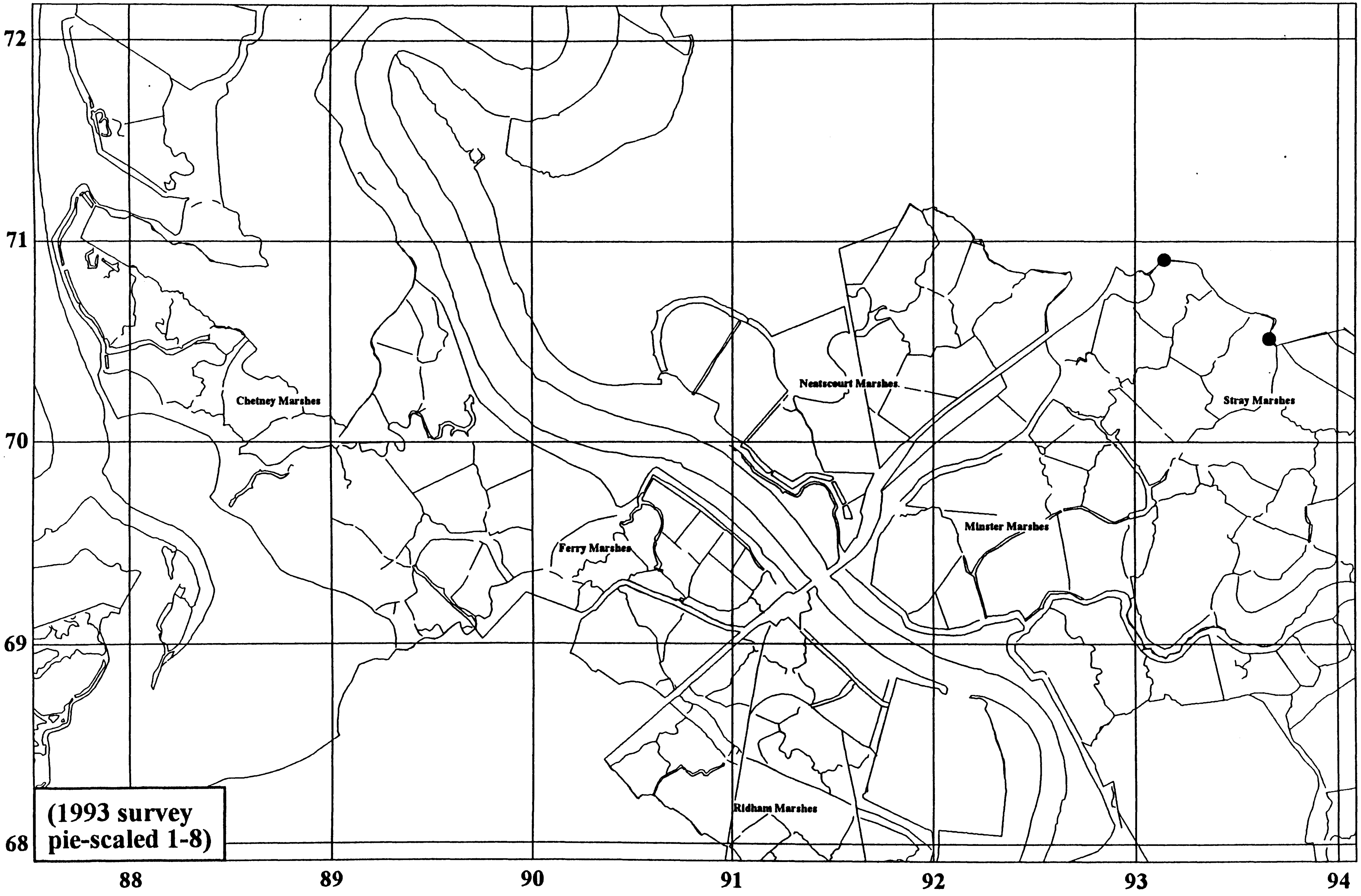
Total number of species



Azolla filiculoides

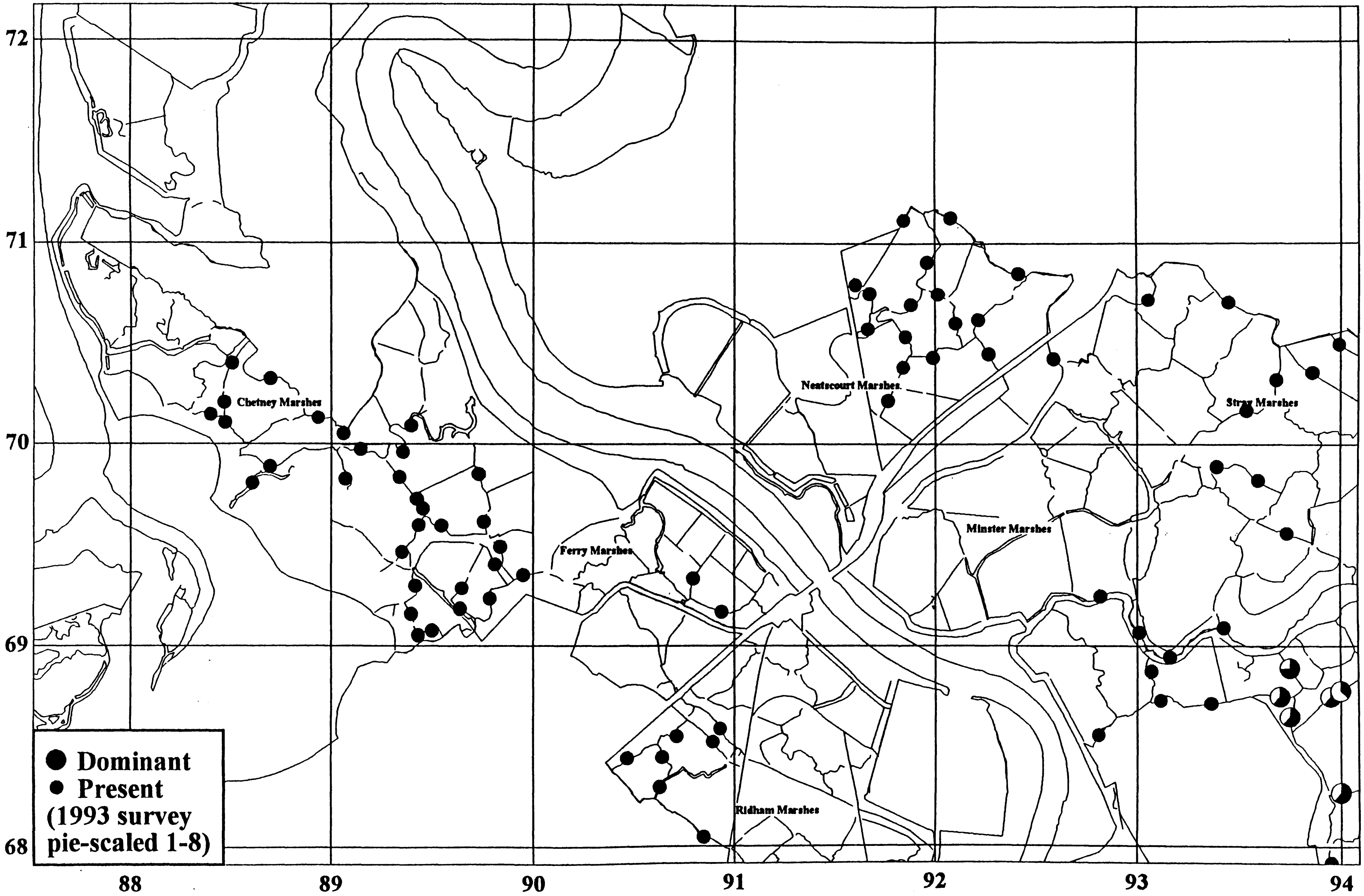


Ceratophyllum demersum

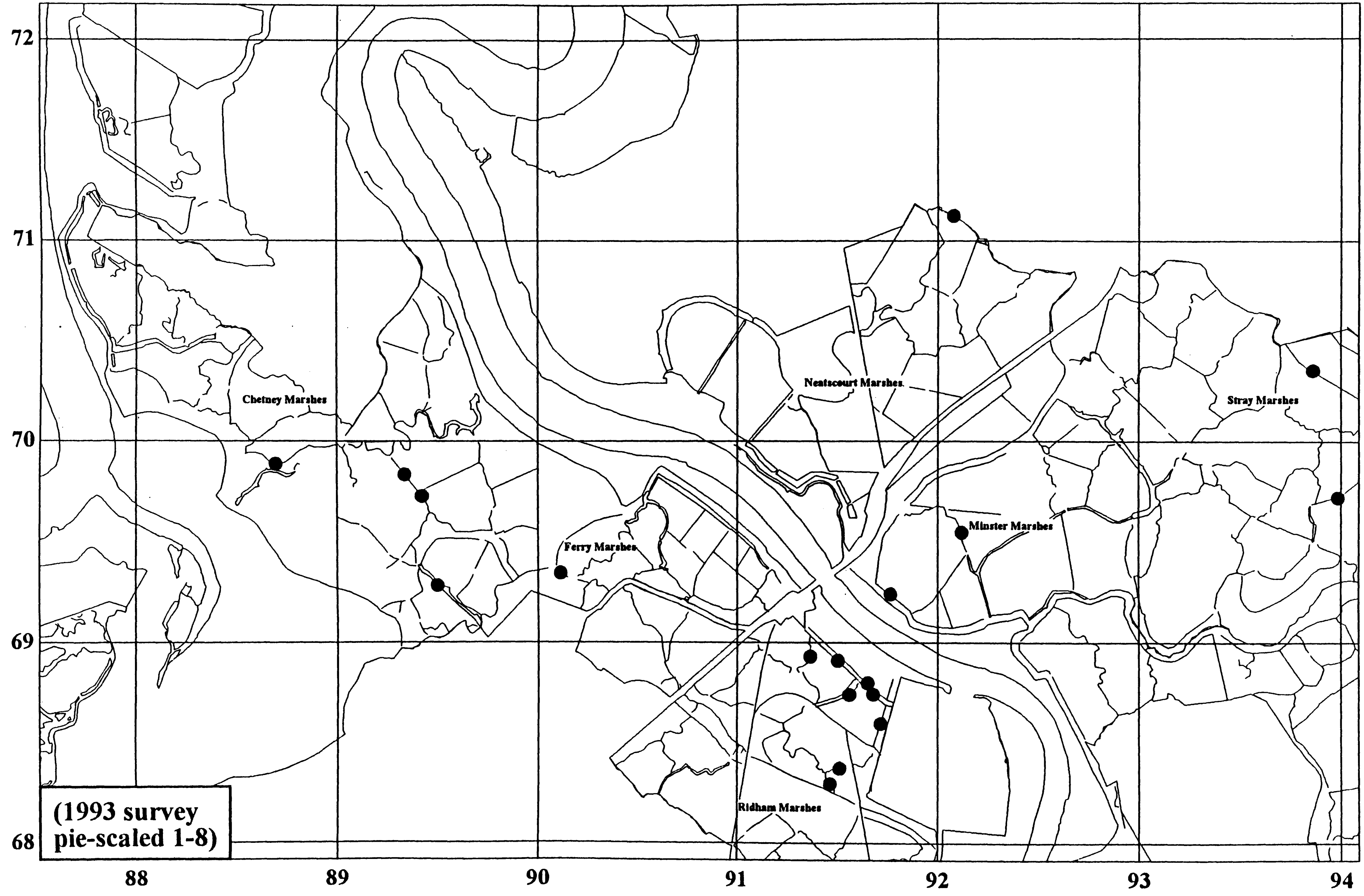


(1993 survey
pie-scaled 1-8)

Ceratophyllum submersum

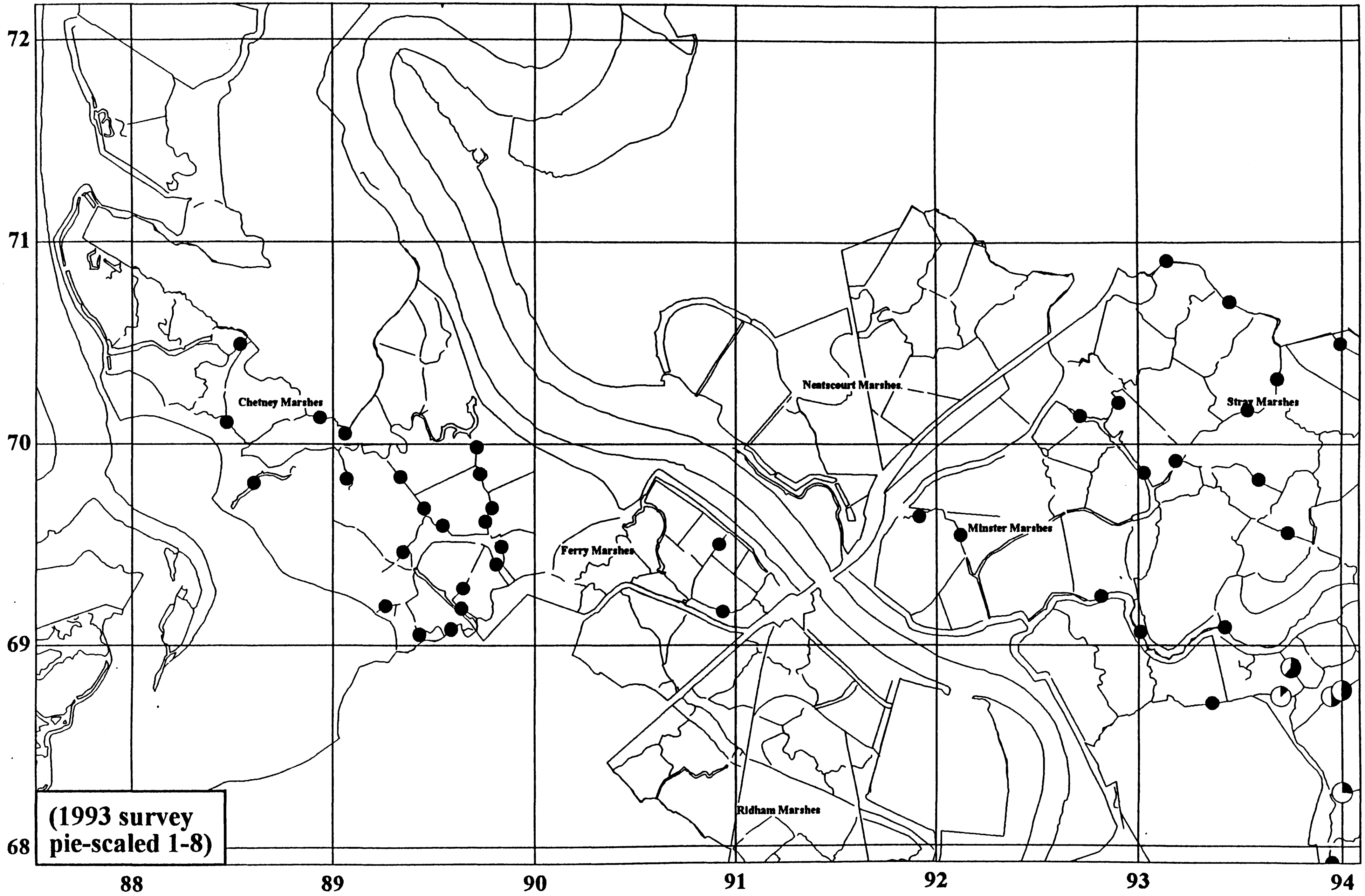


Lemna gibba



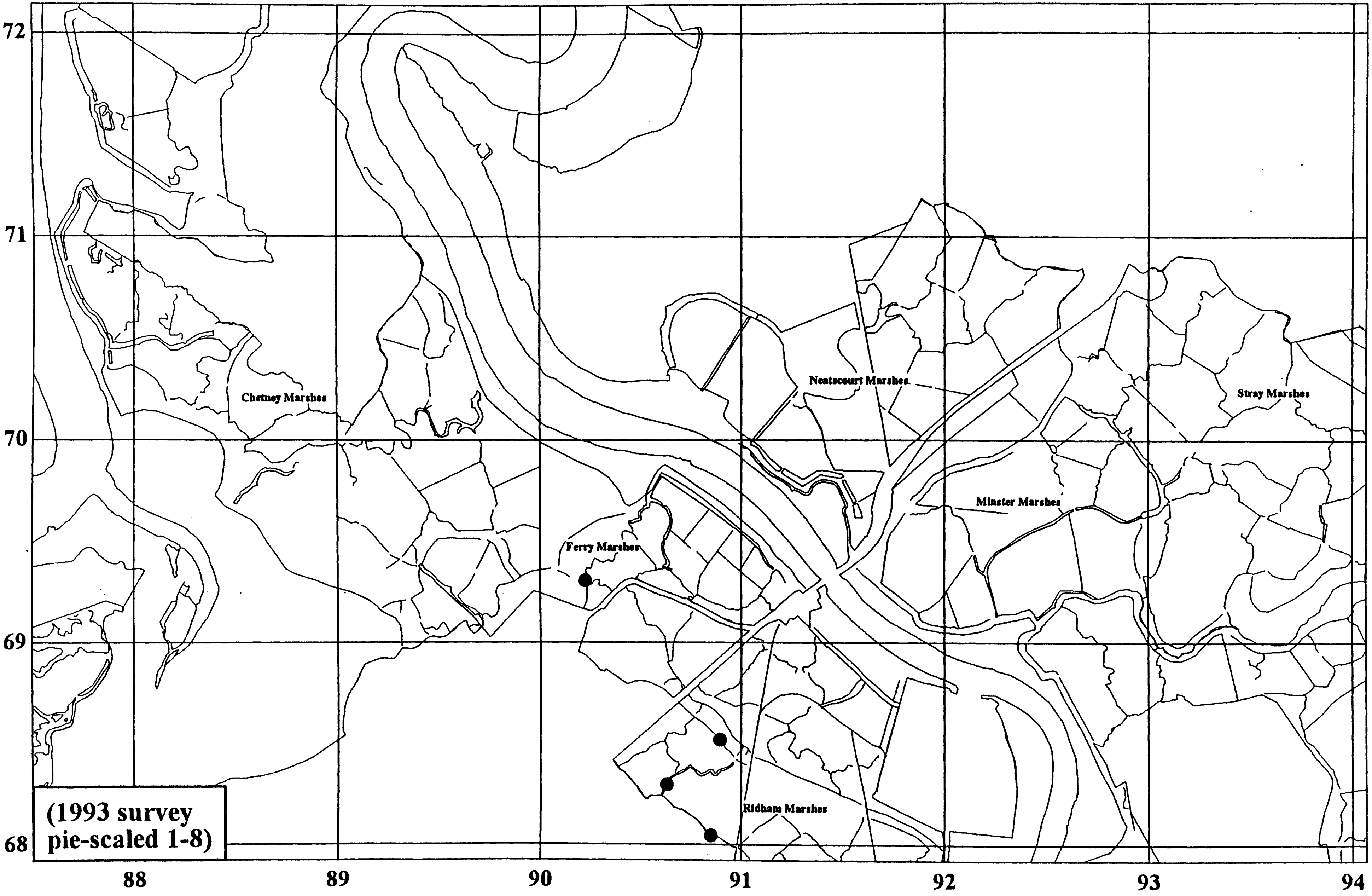
(1993 survey
pie-scaled 1-8)

Myriophyllum spicatum

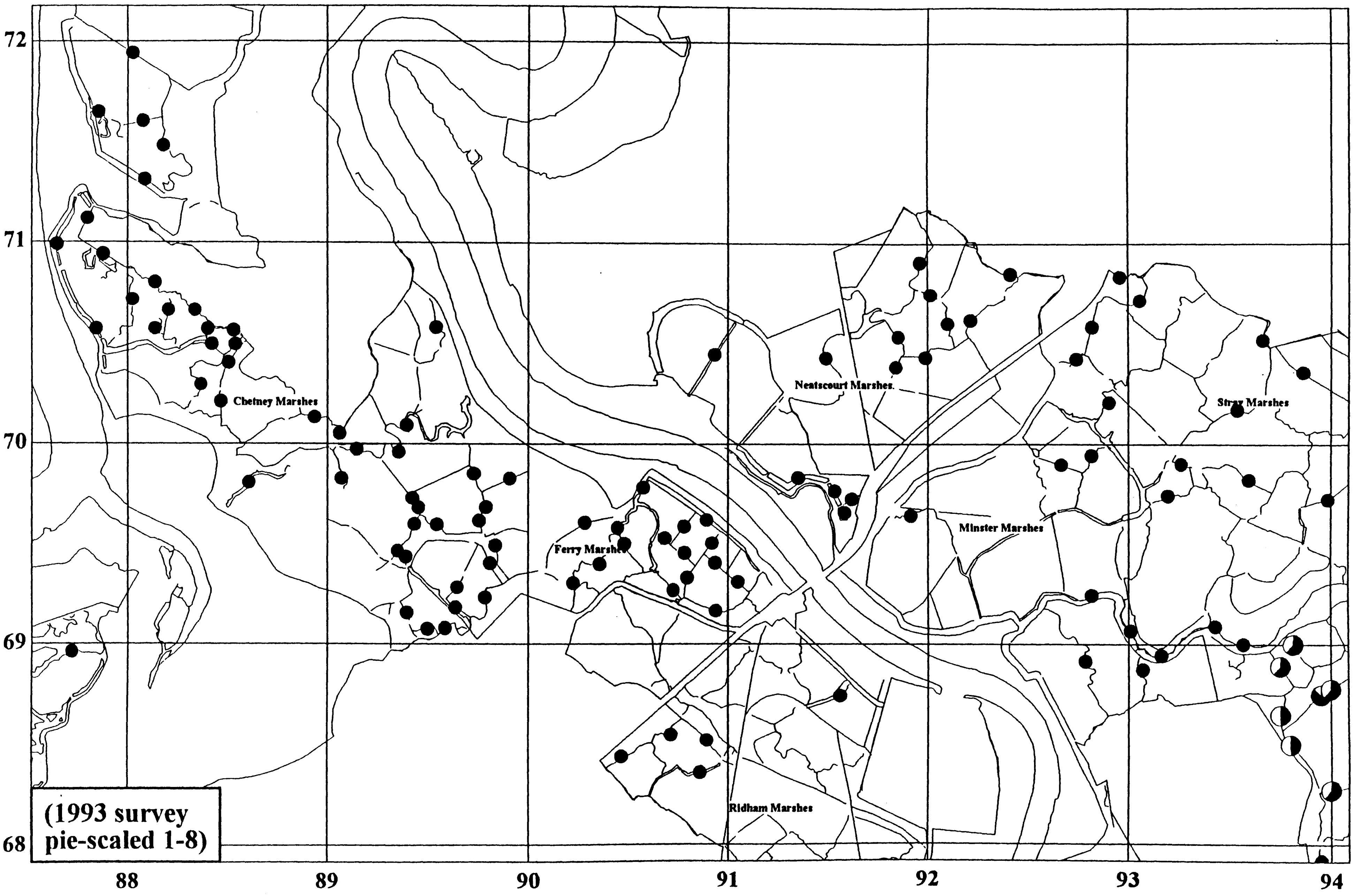


(1993 survey
pie-scaled 1-8)

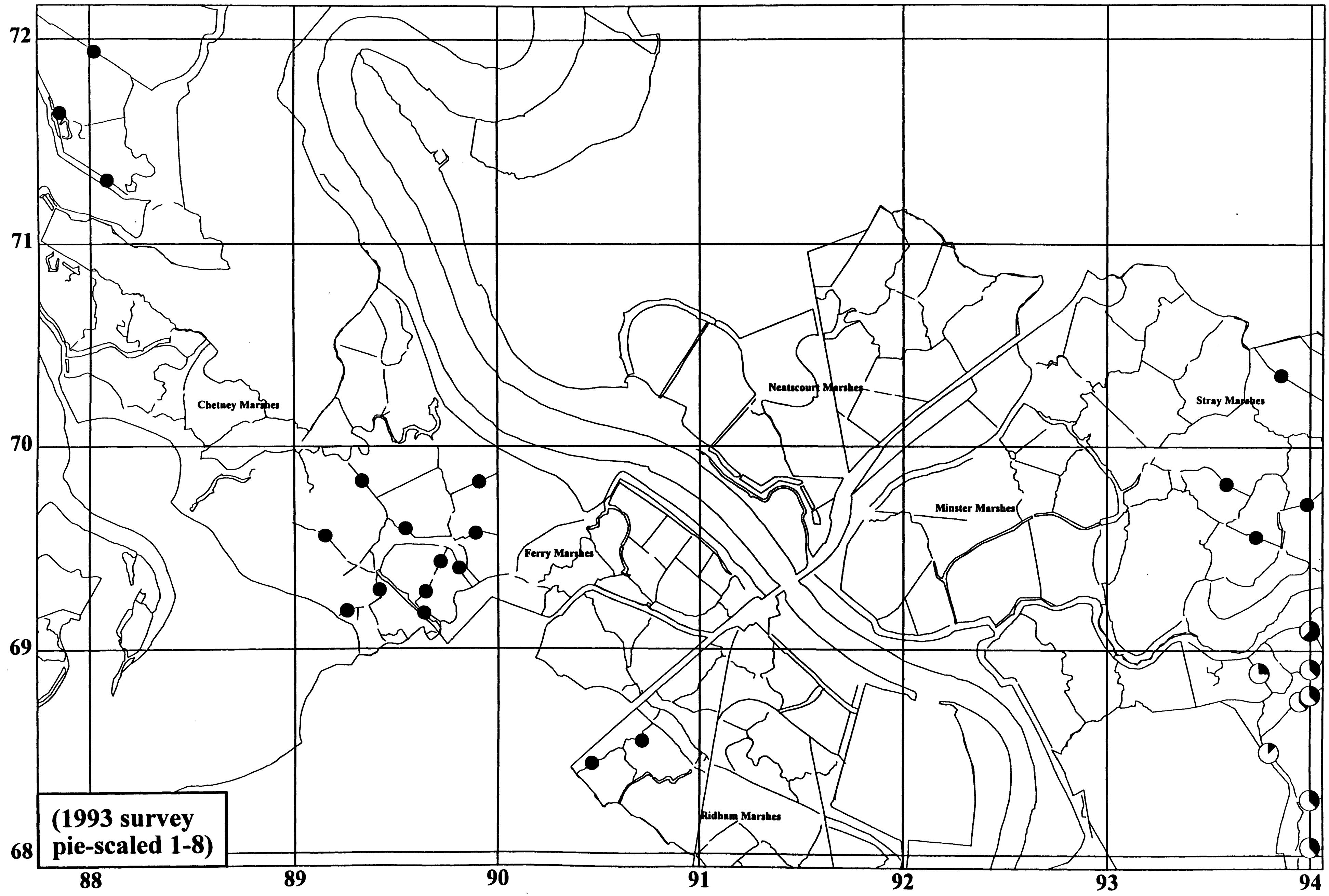
Potamogeton crispus



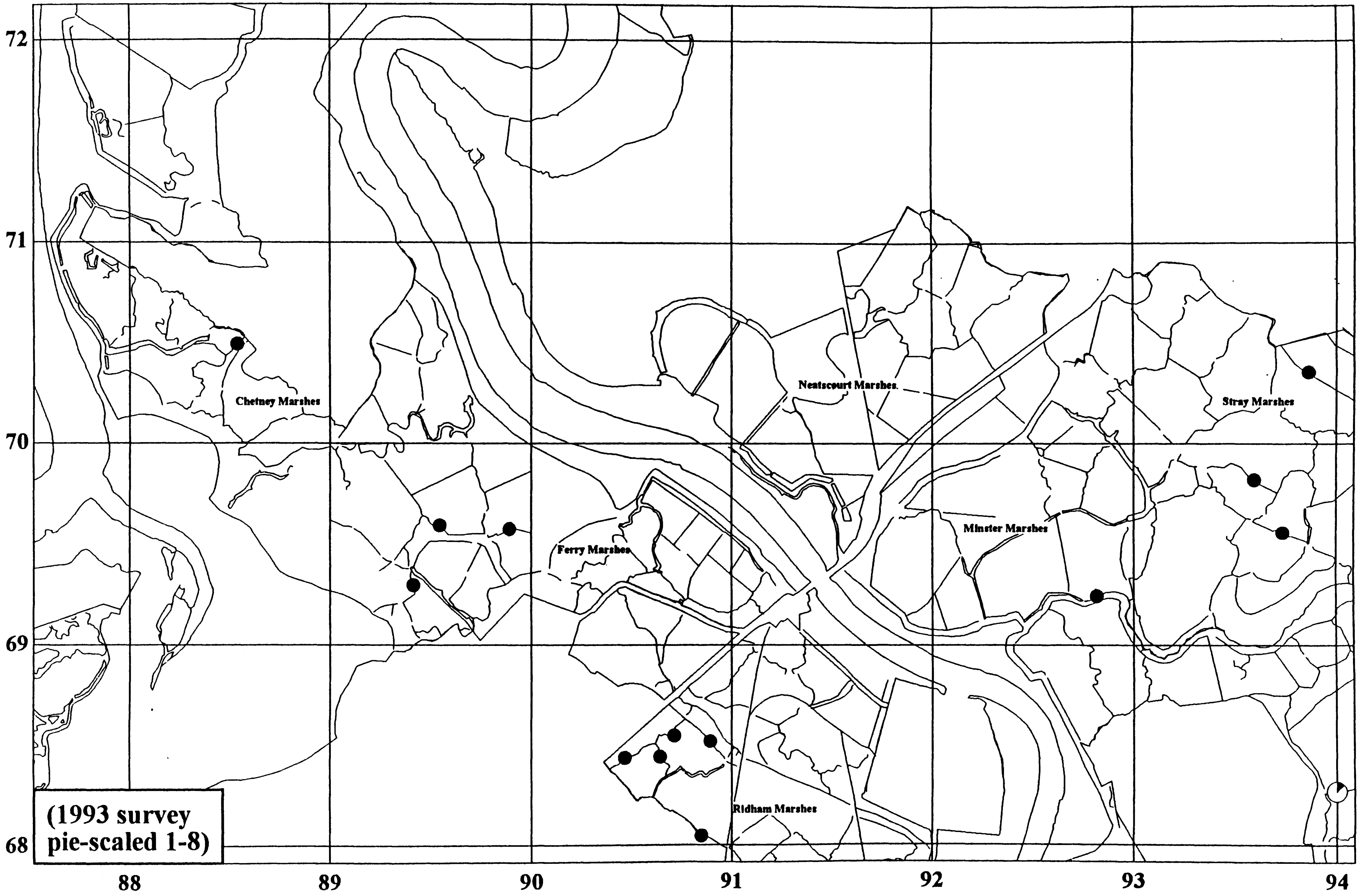
Potamogeton pectinatus



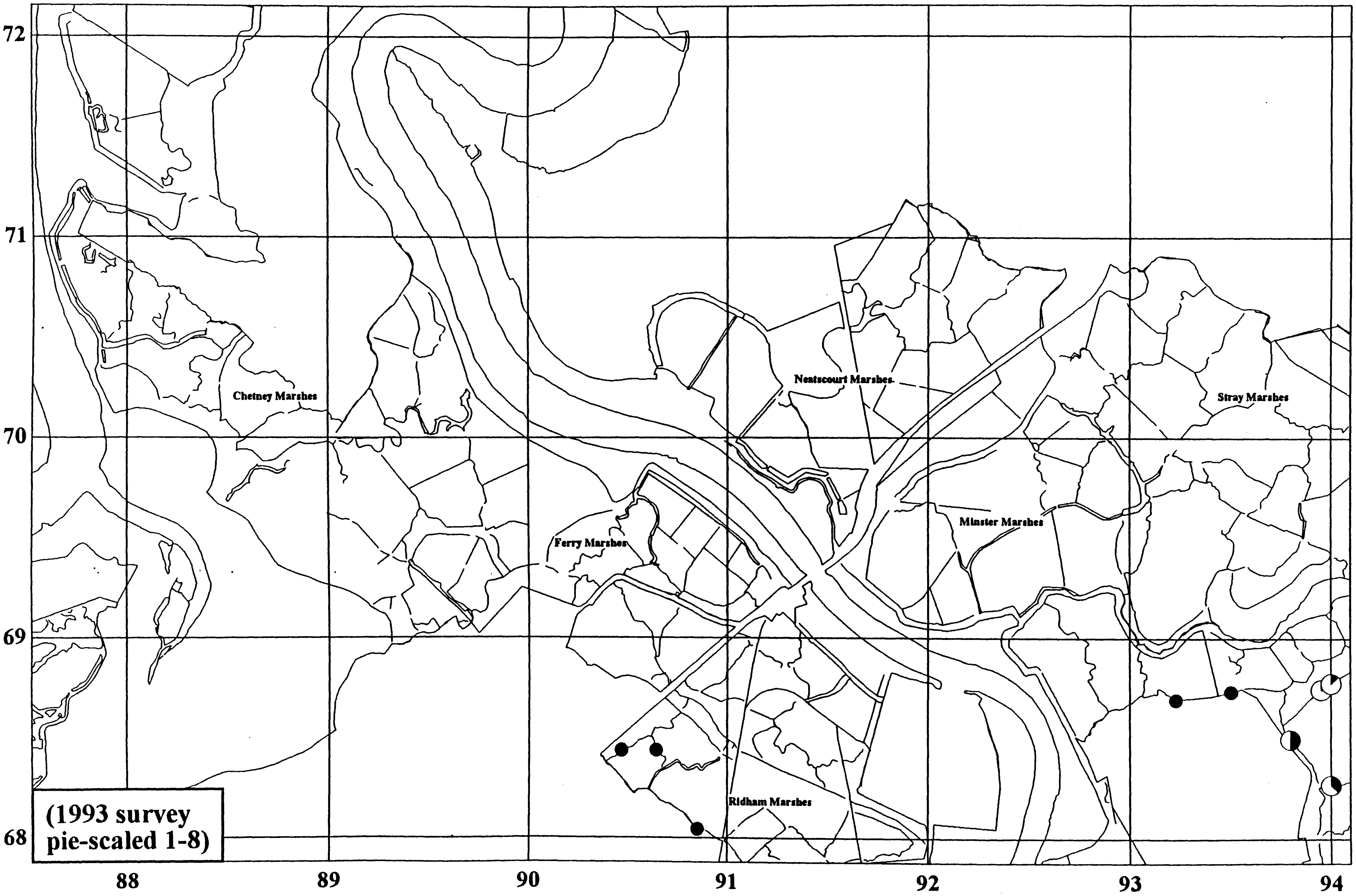
Ranunculus baudotii



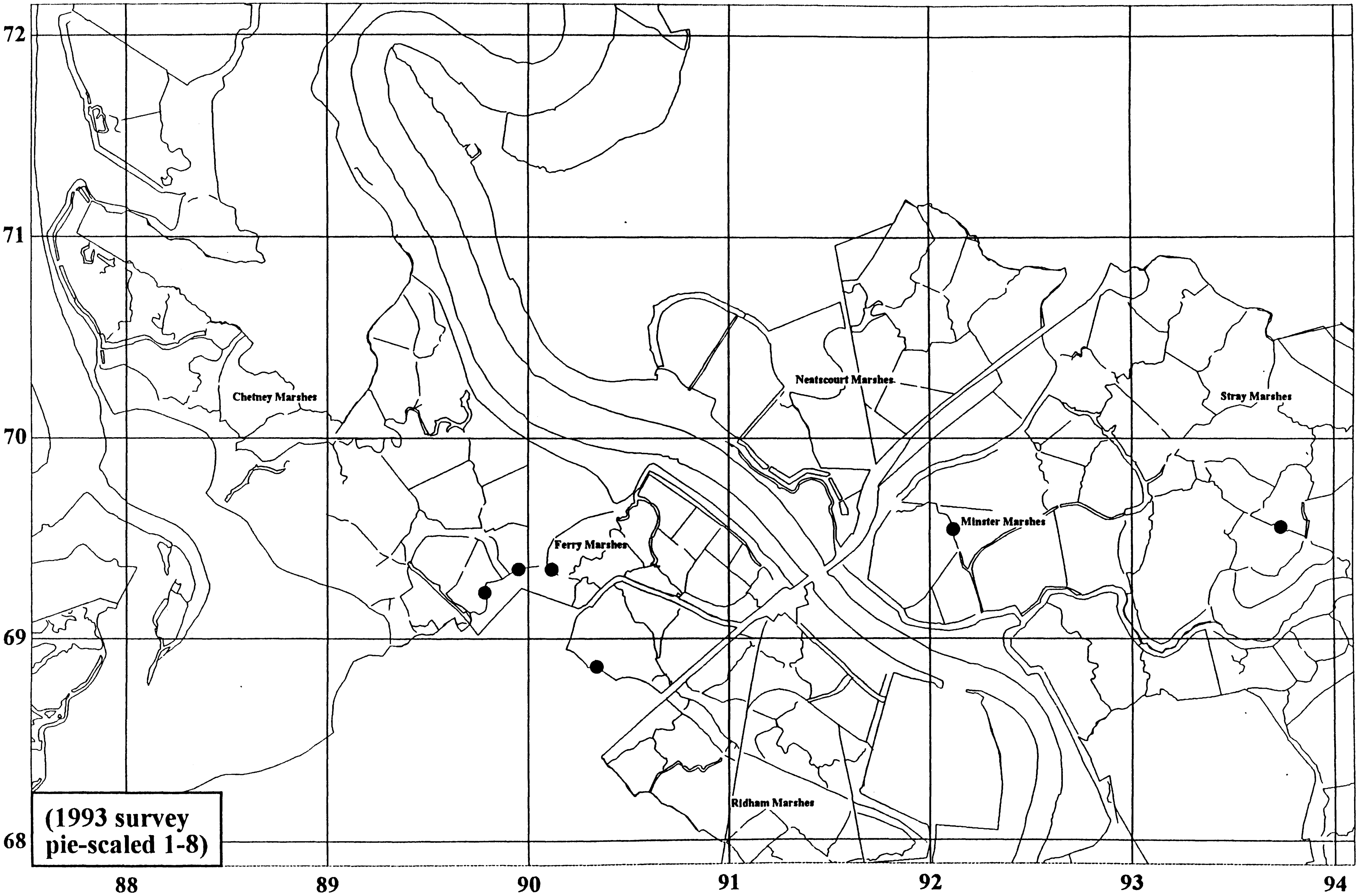
Zannichellia palustris



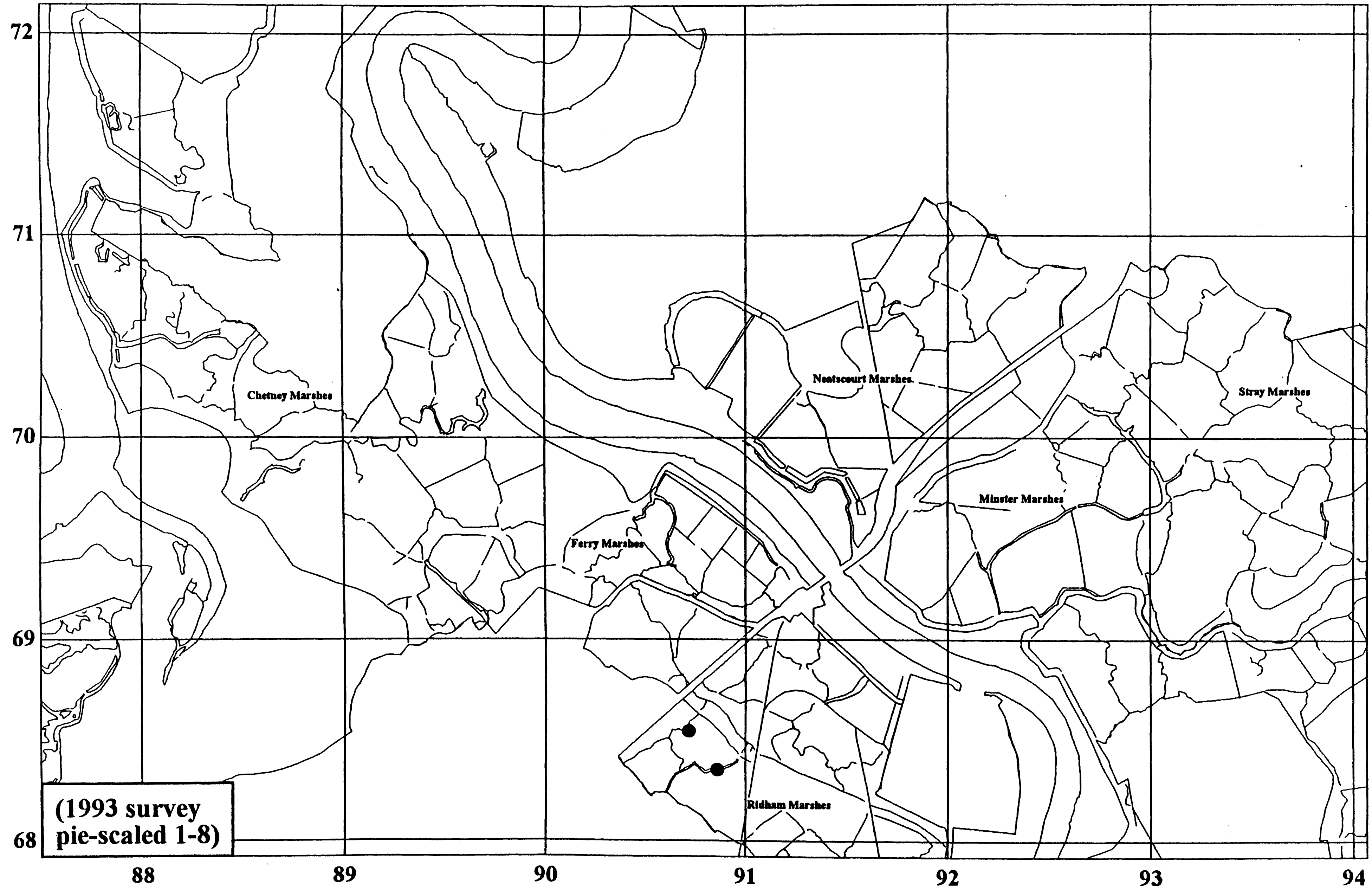
Alisma plantago-aquatica



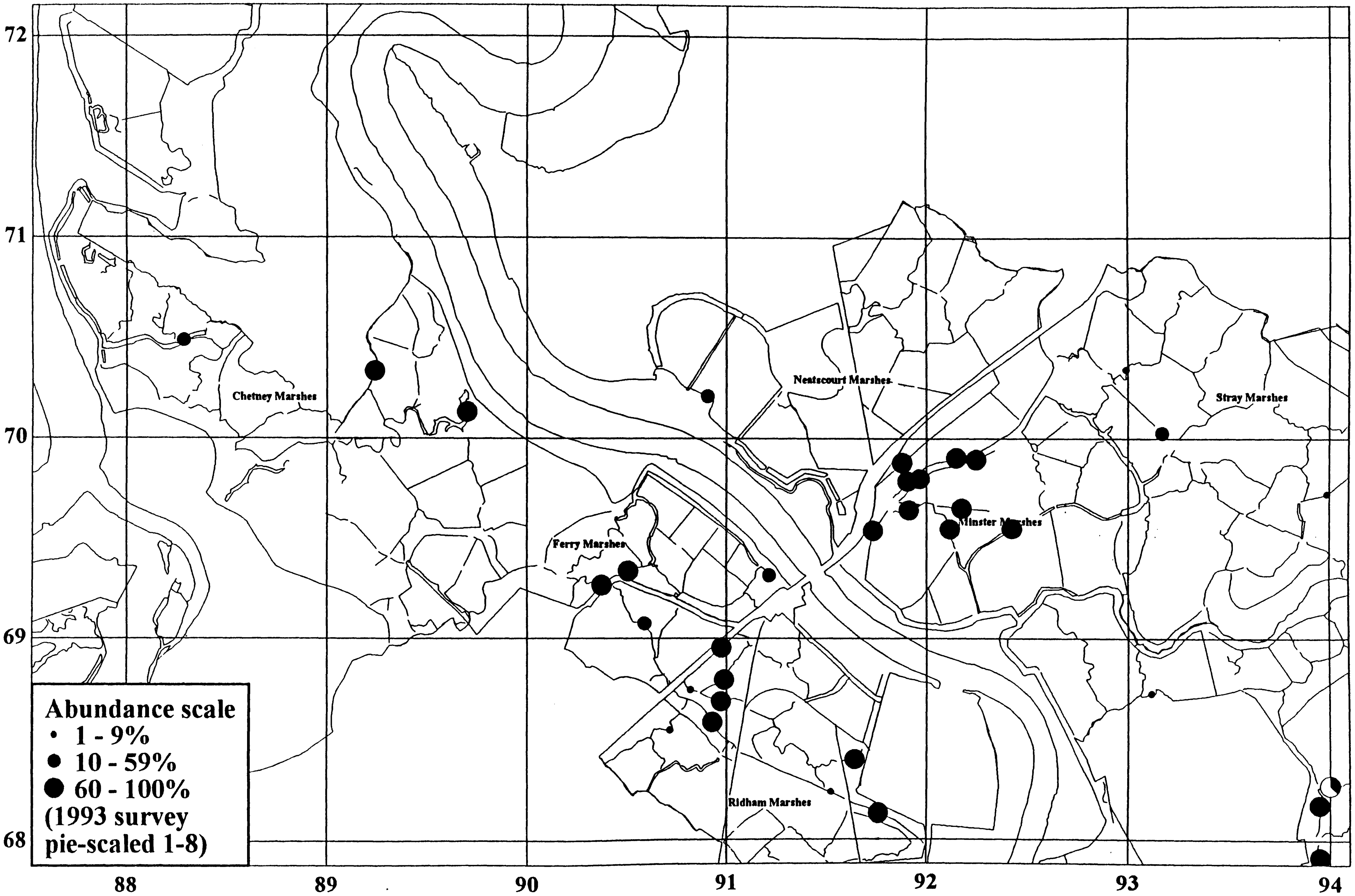
Nasturtium officinale agg



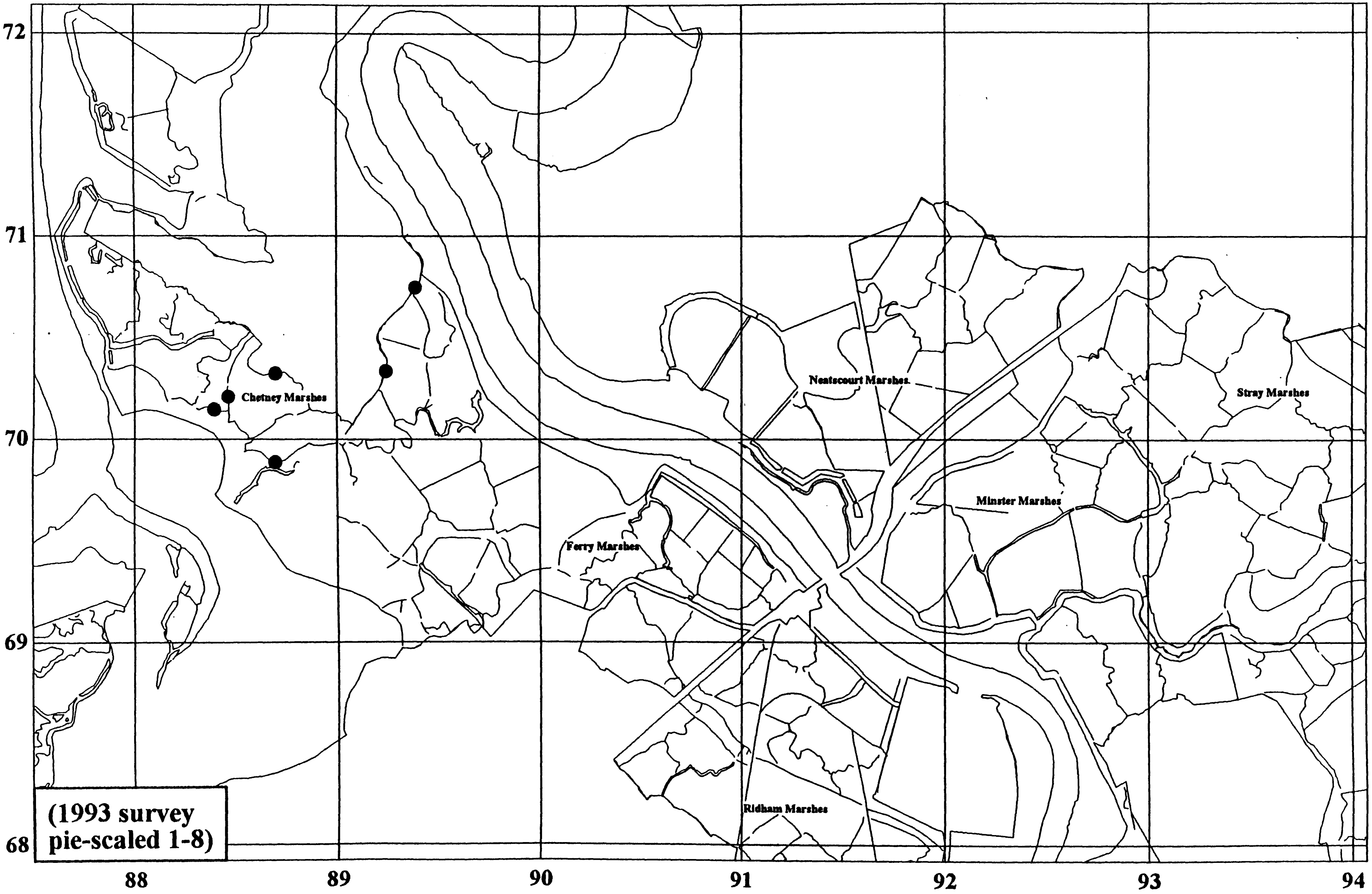
Oenanthe fistulosa



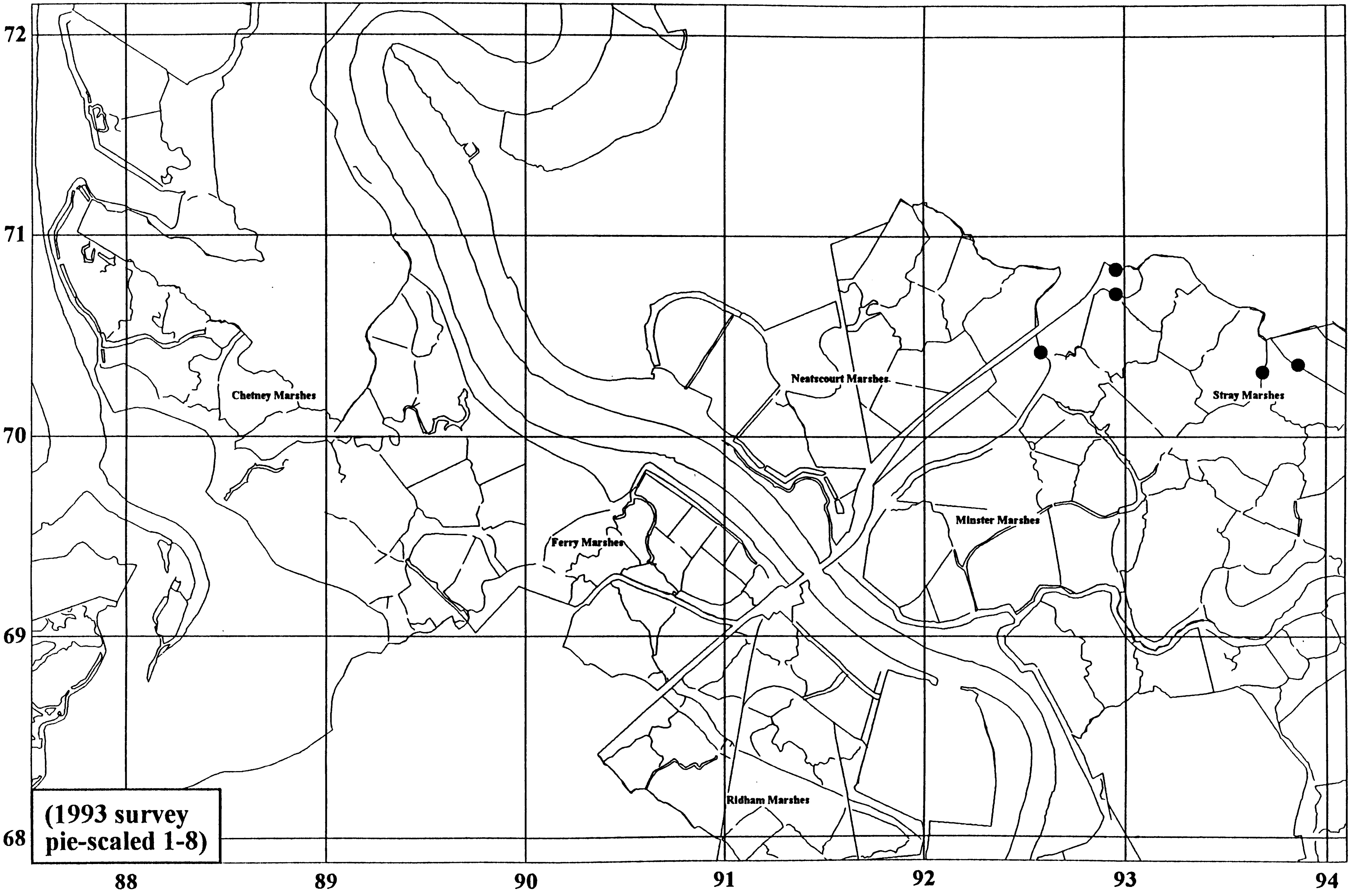
Phragmites australis



Rumex hydrolapathum

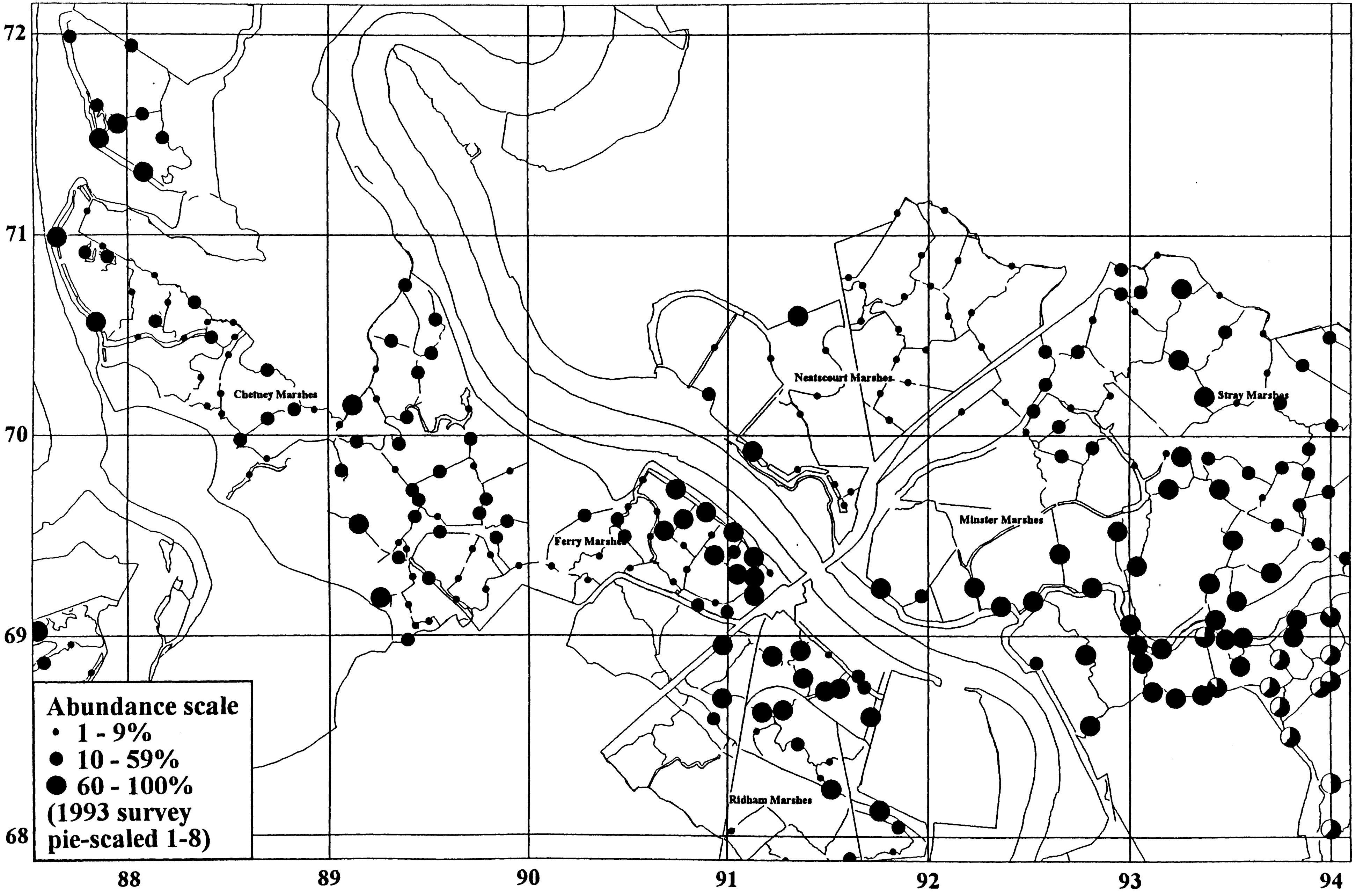


Scirpus lacustris

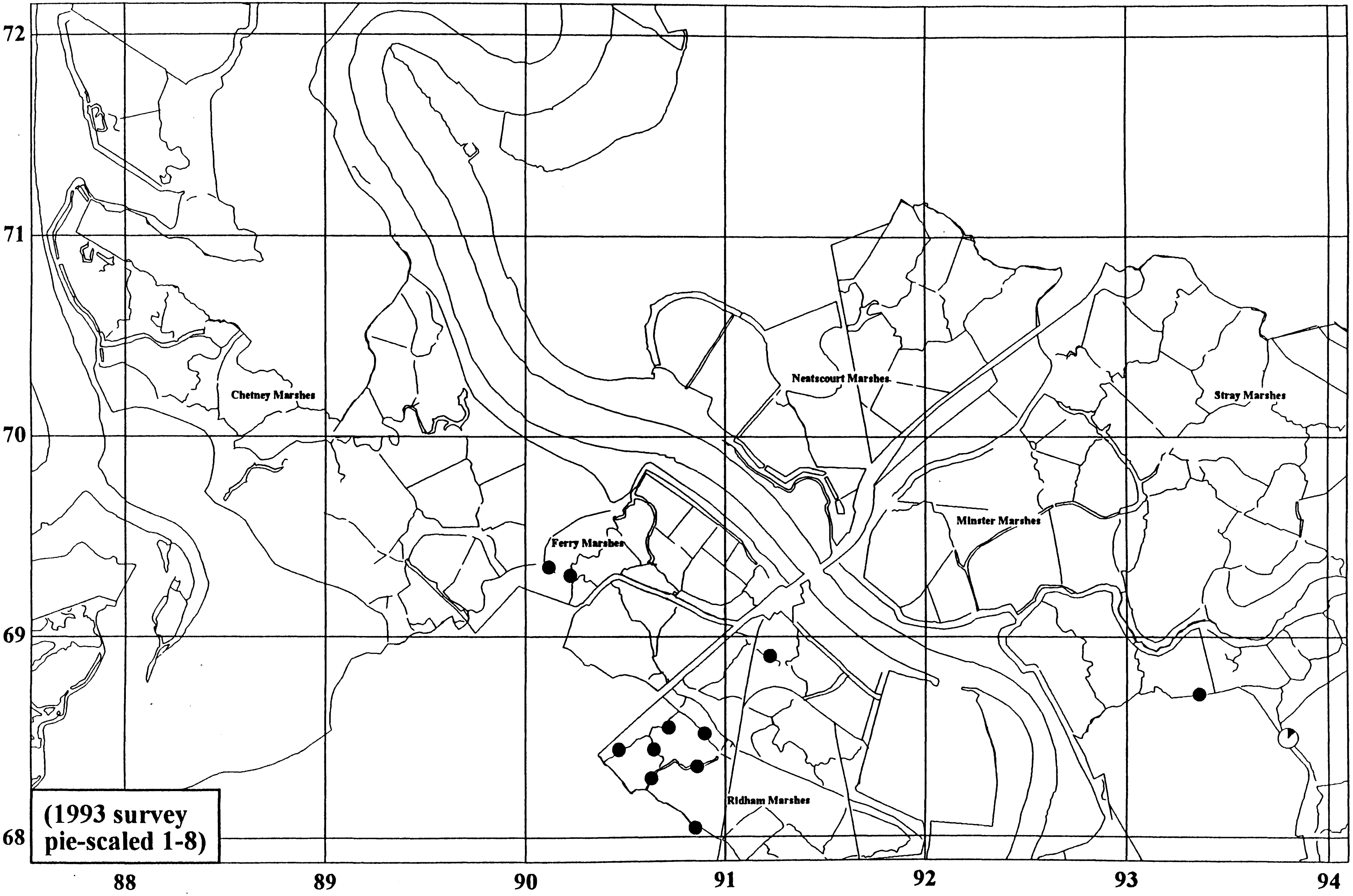


(1993 survey
pie-scaled 1-8)

Scirpus maritimus

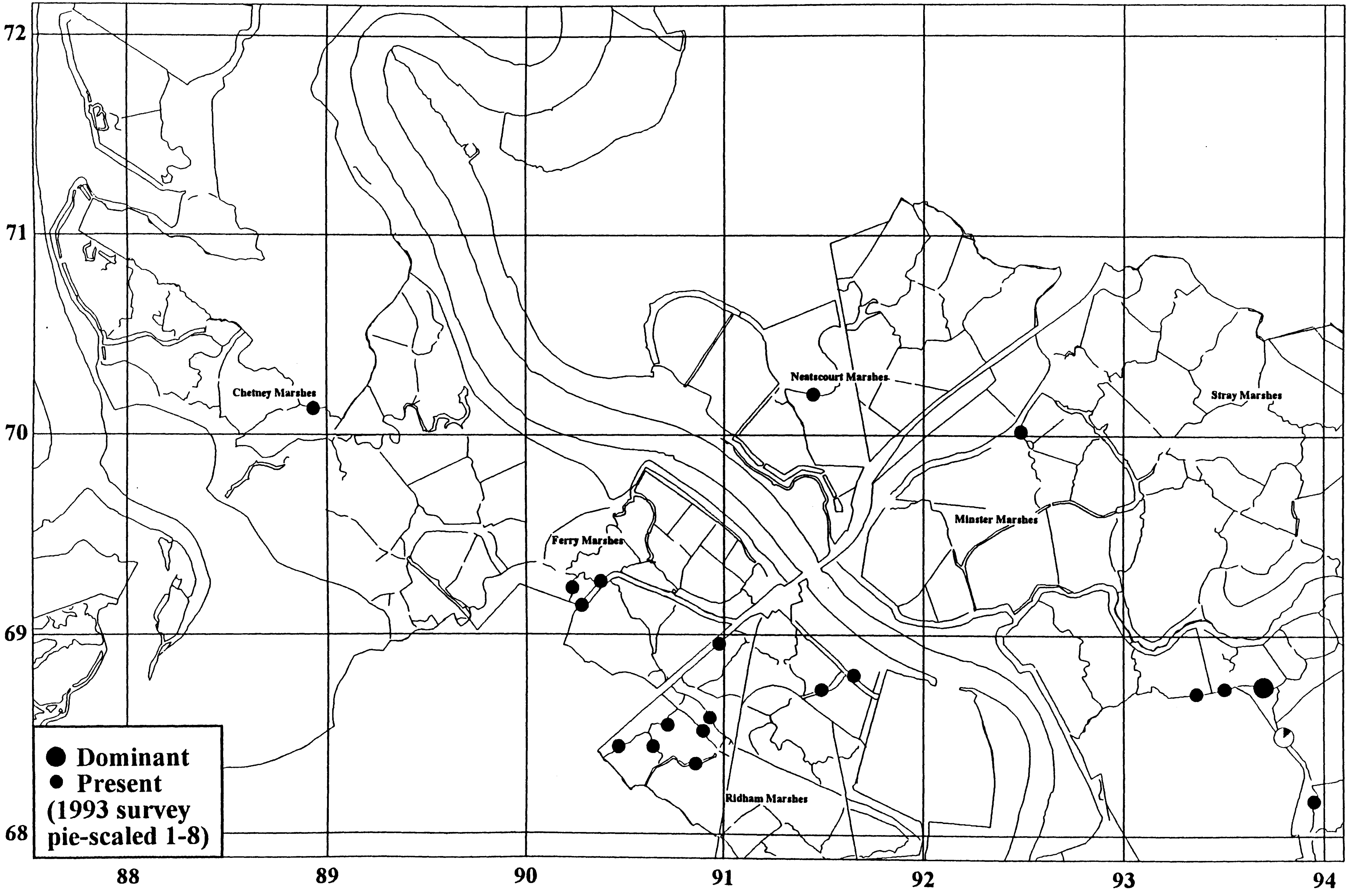


Sparganium erectum

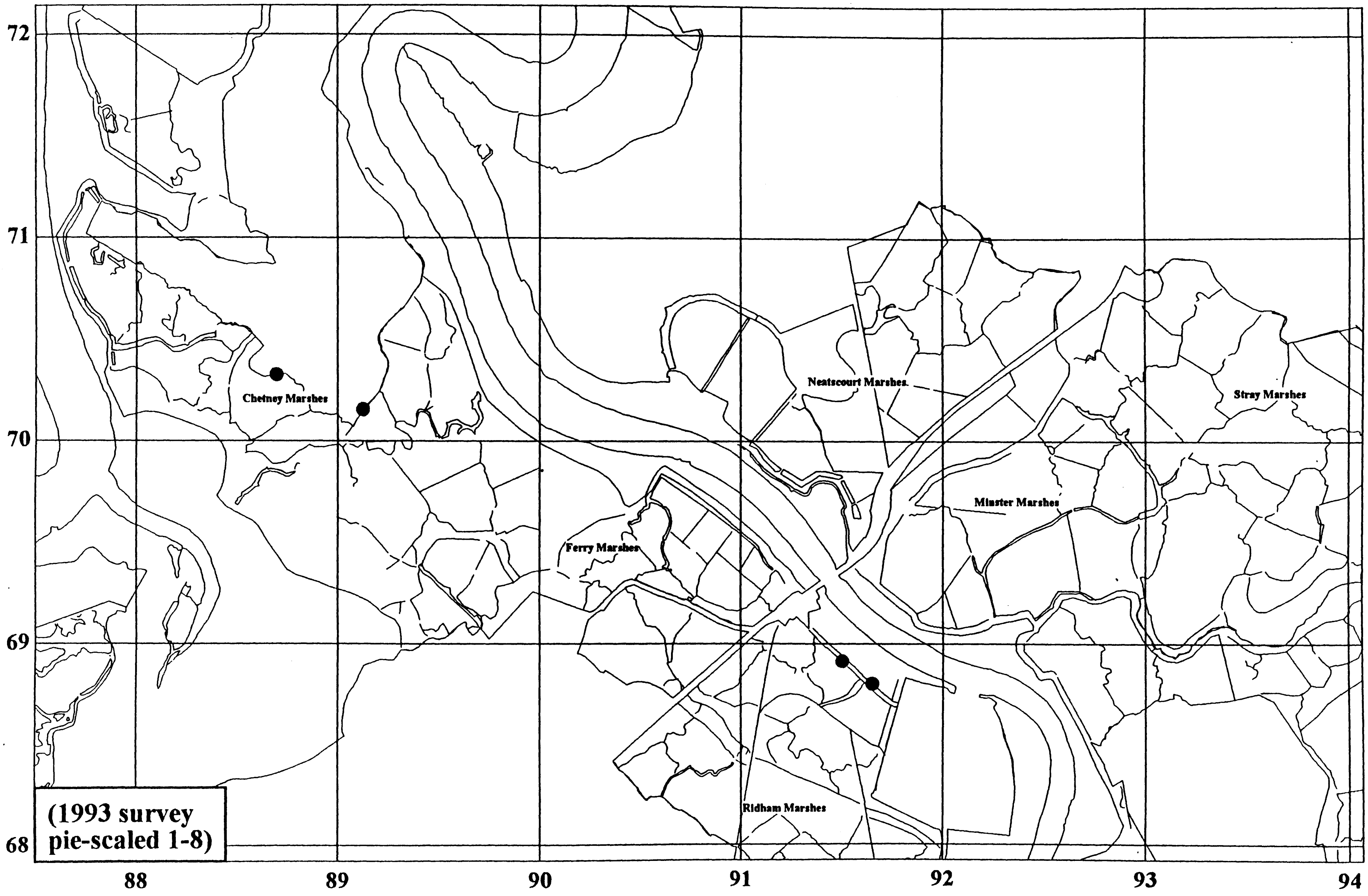


(1993 survey
pie-scaled 1-8)

Typha angustifolia

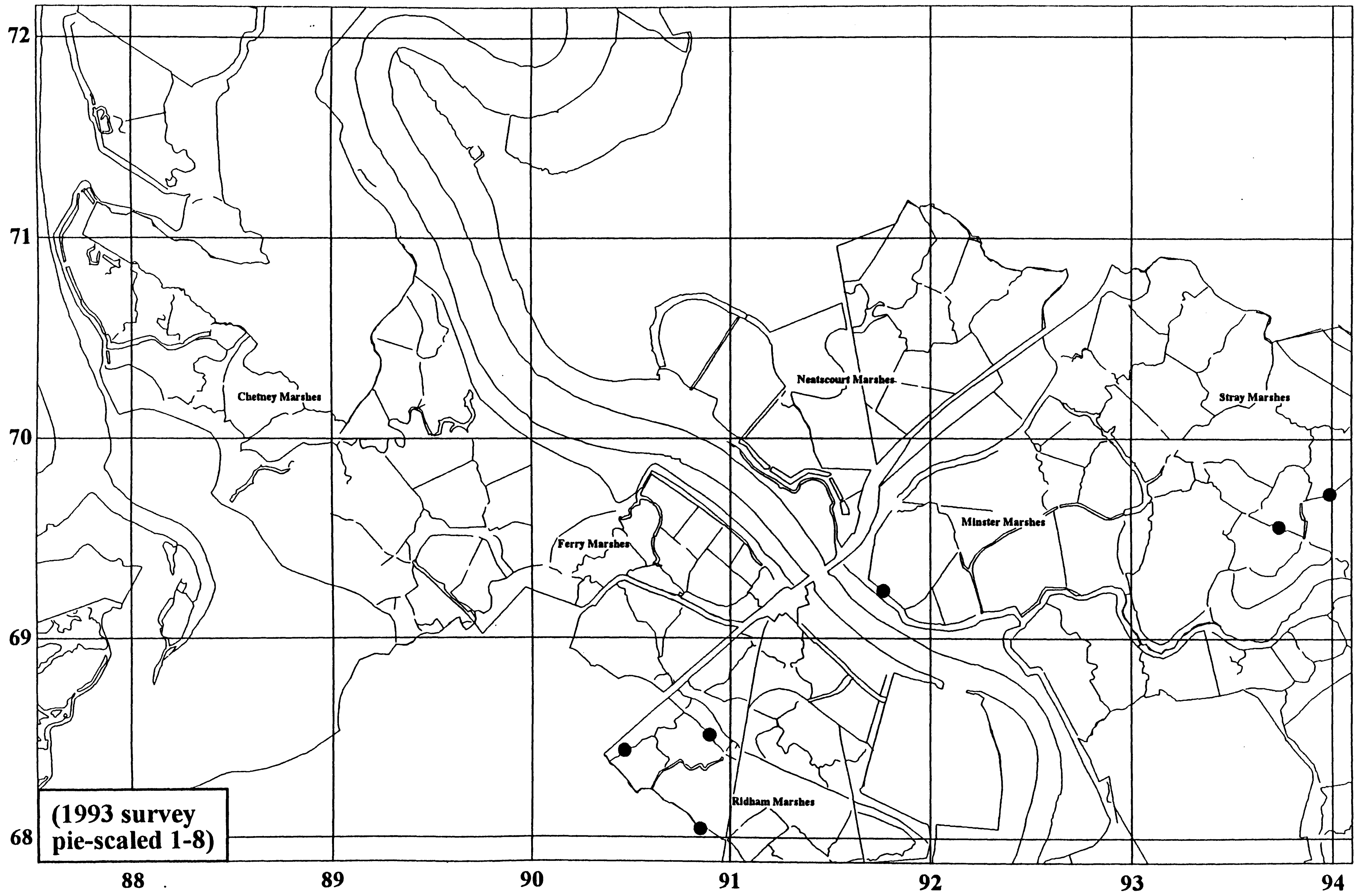


Typha latifolia

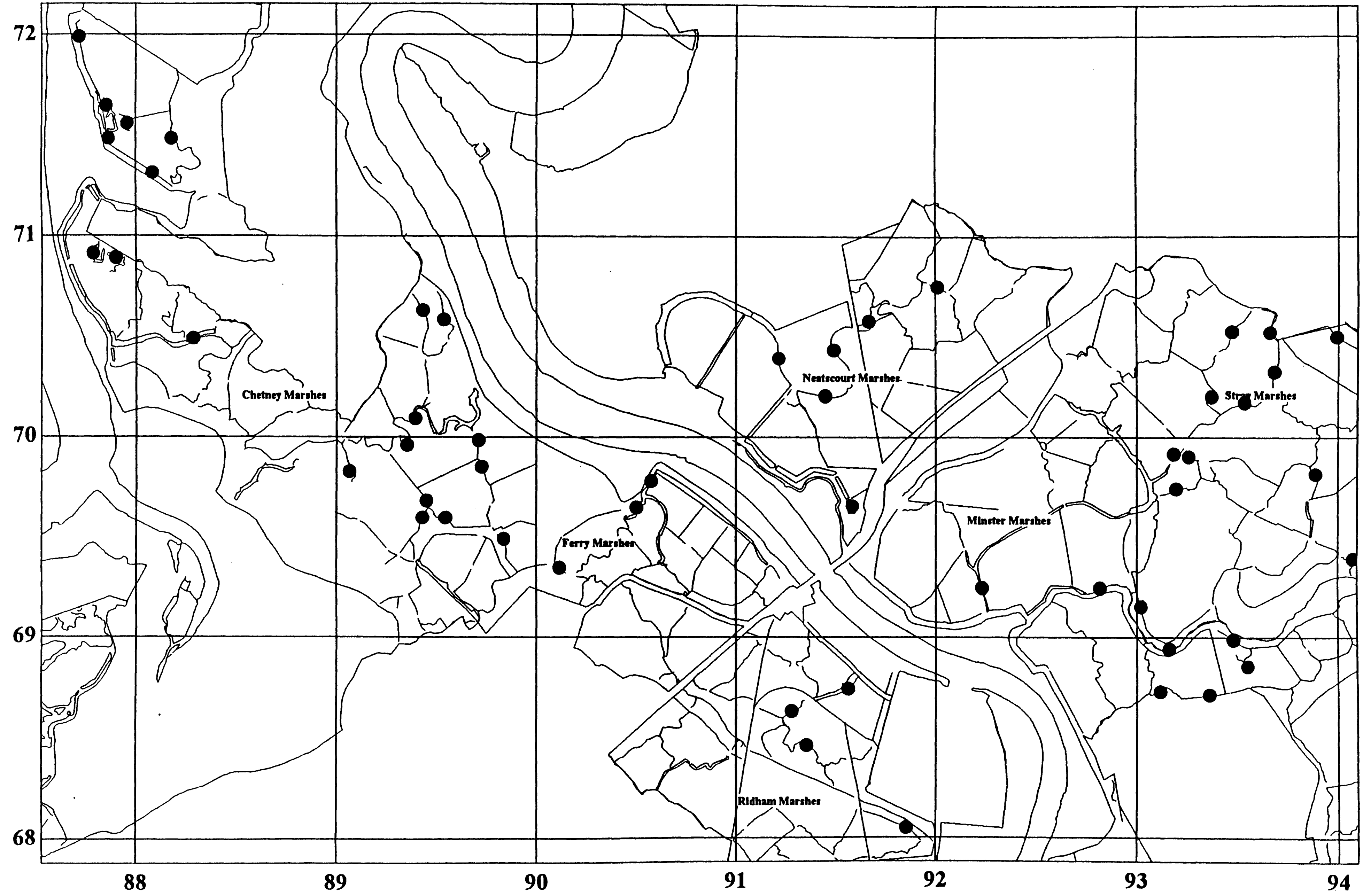


(1993 survey
pie-scaled 1-8)

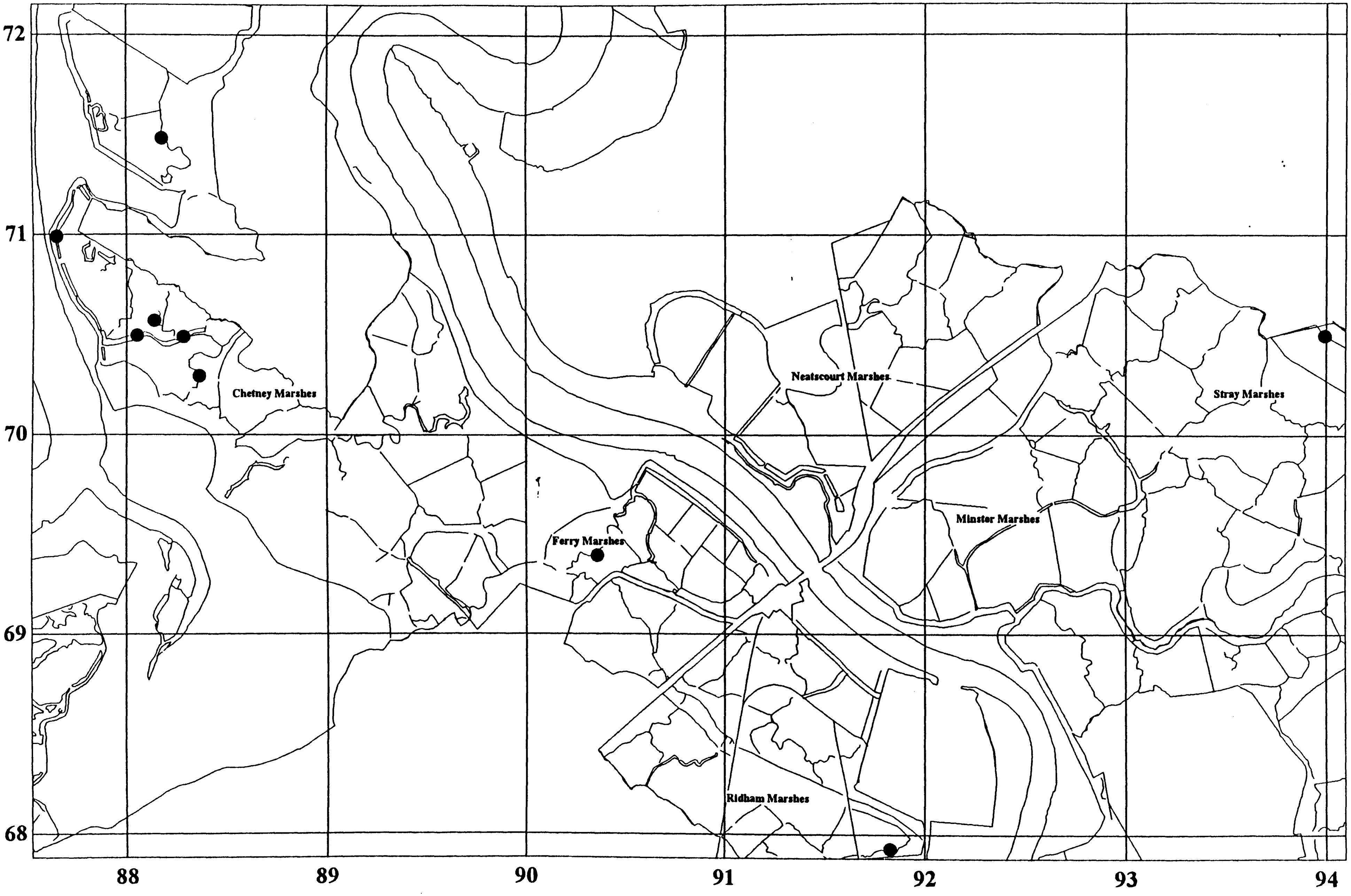
Veronica catenata



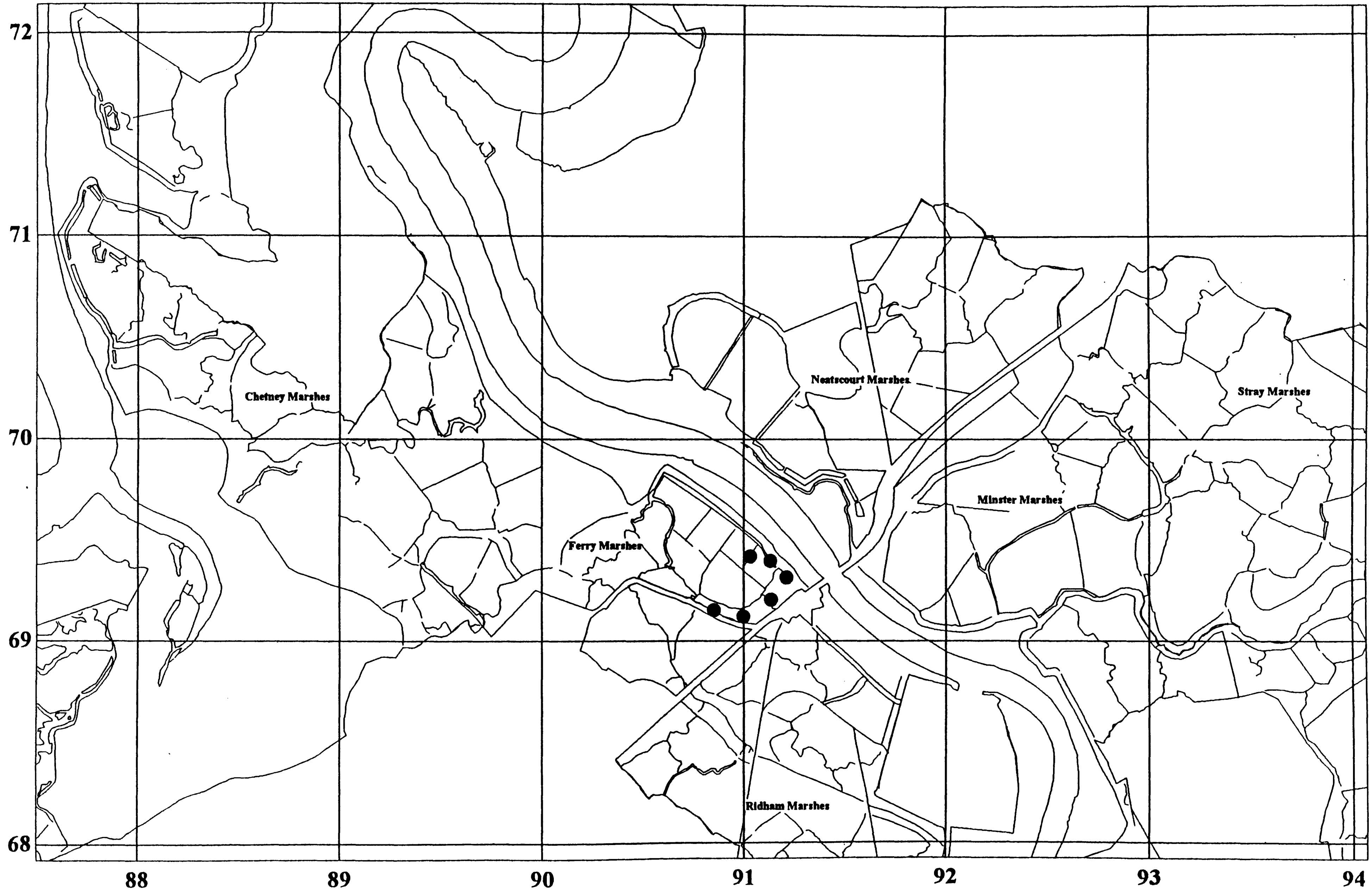
Chenopodium chenopodioides



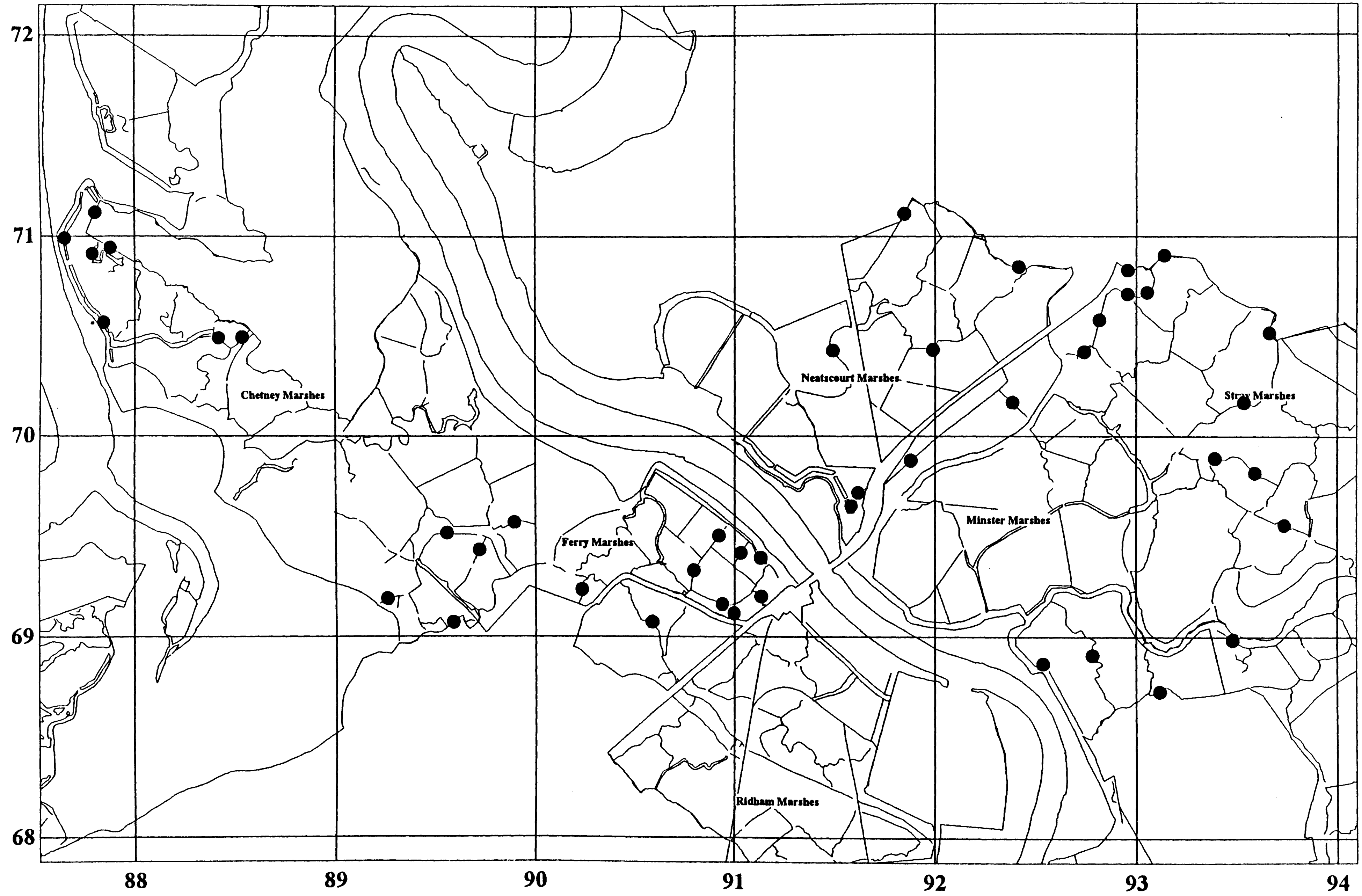
Glaux maritima



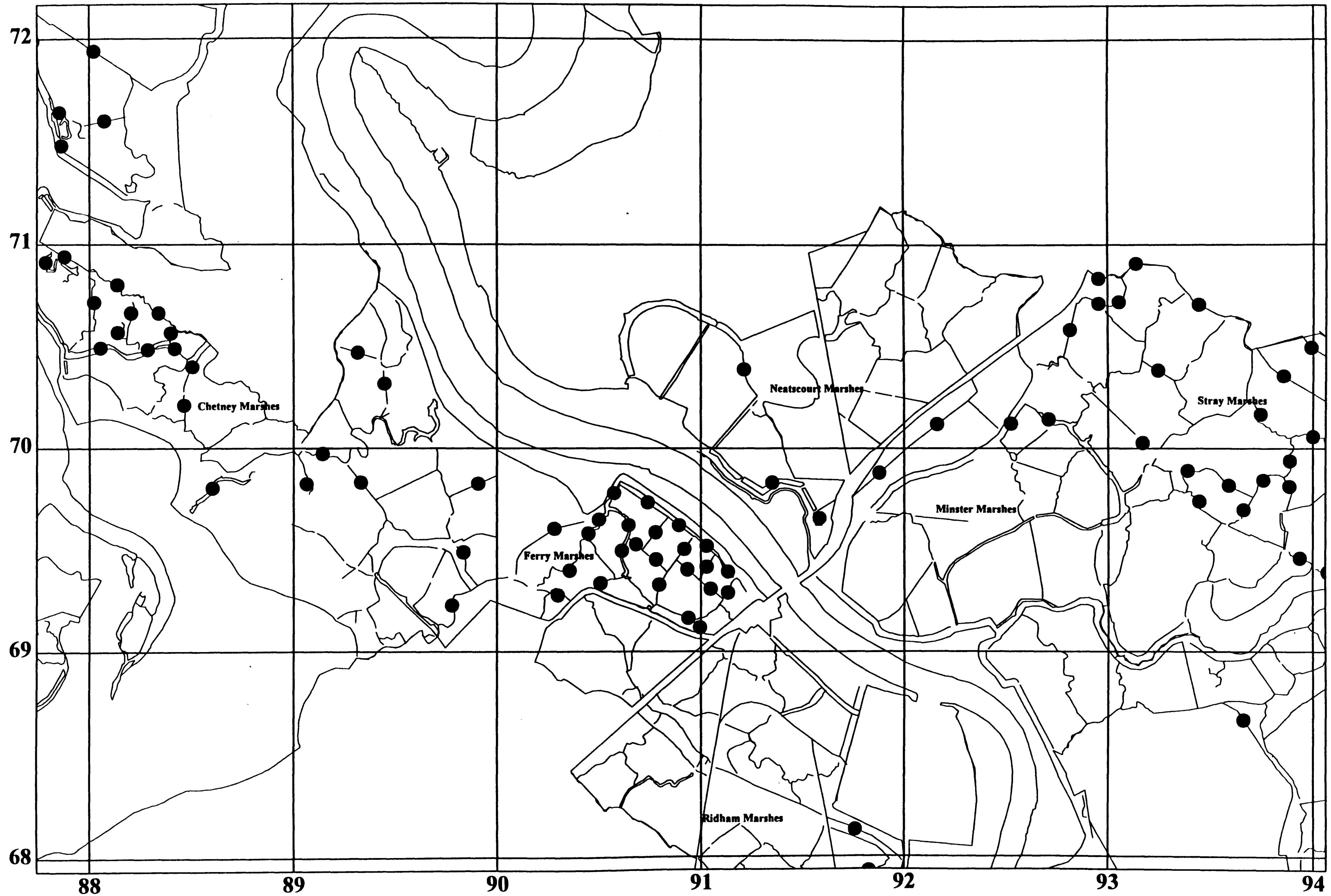
Carex distans



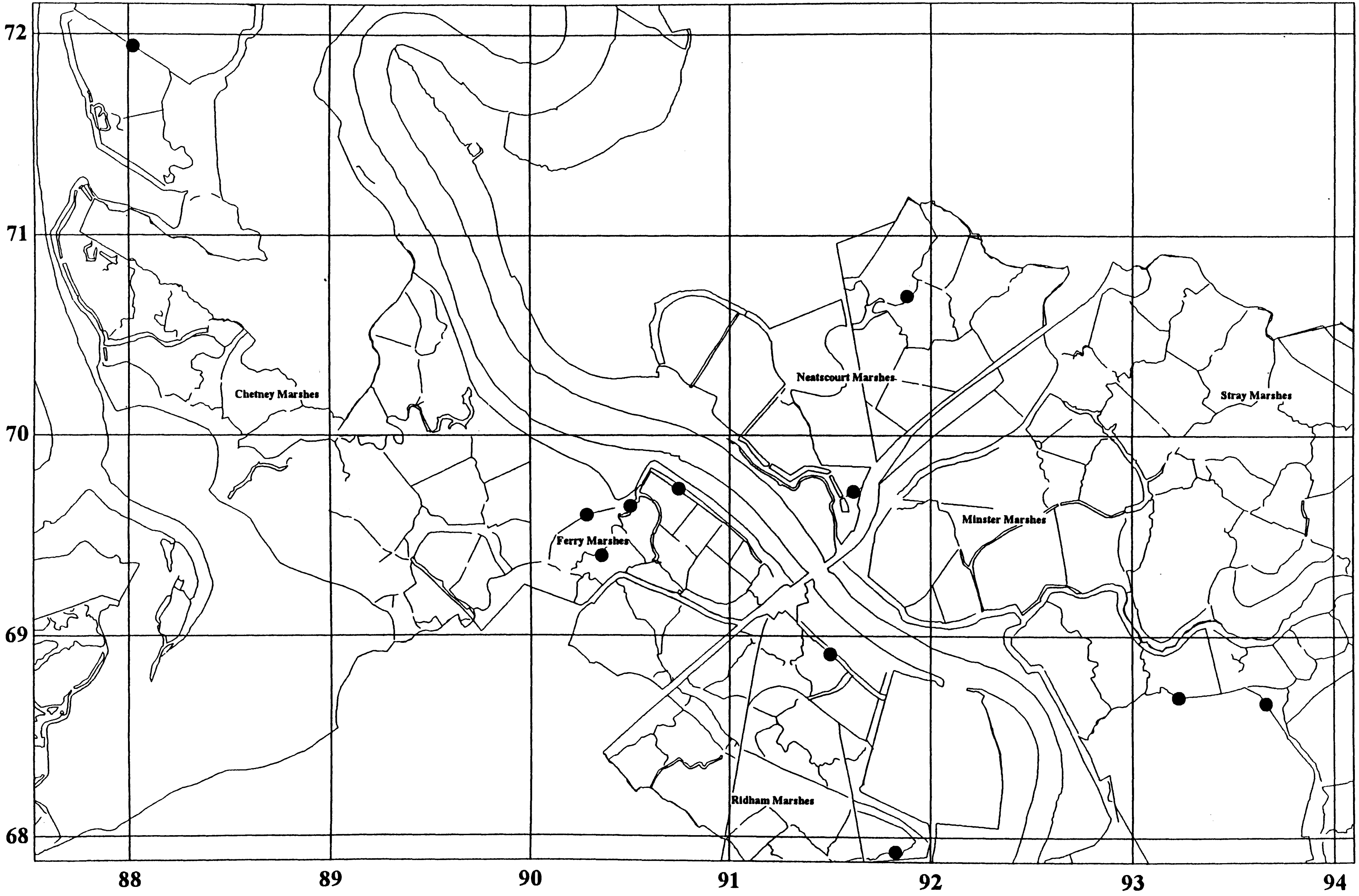
Carex divisa



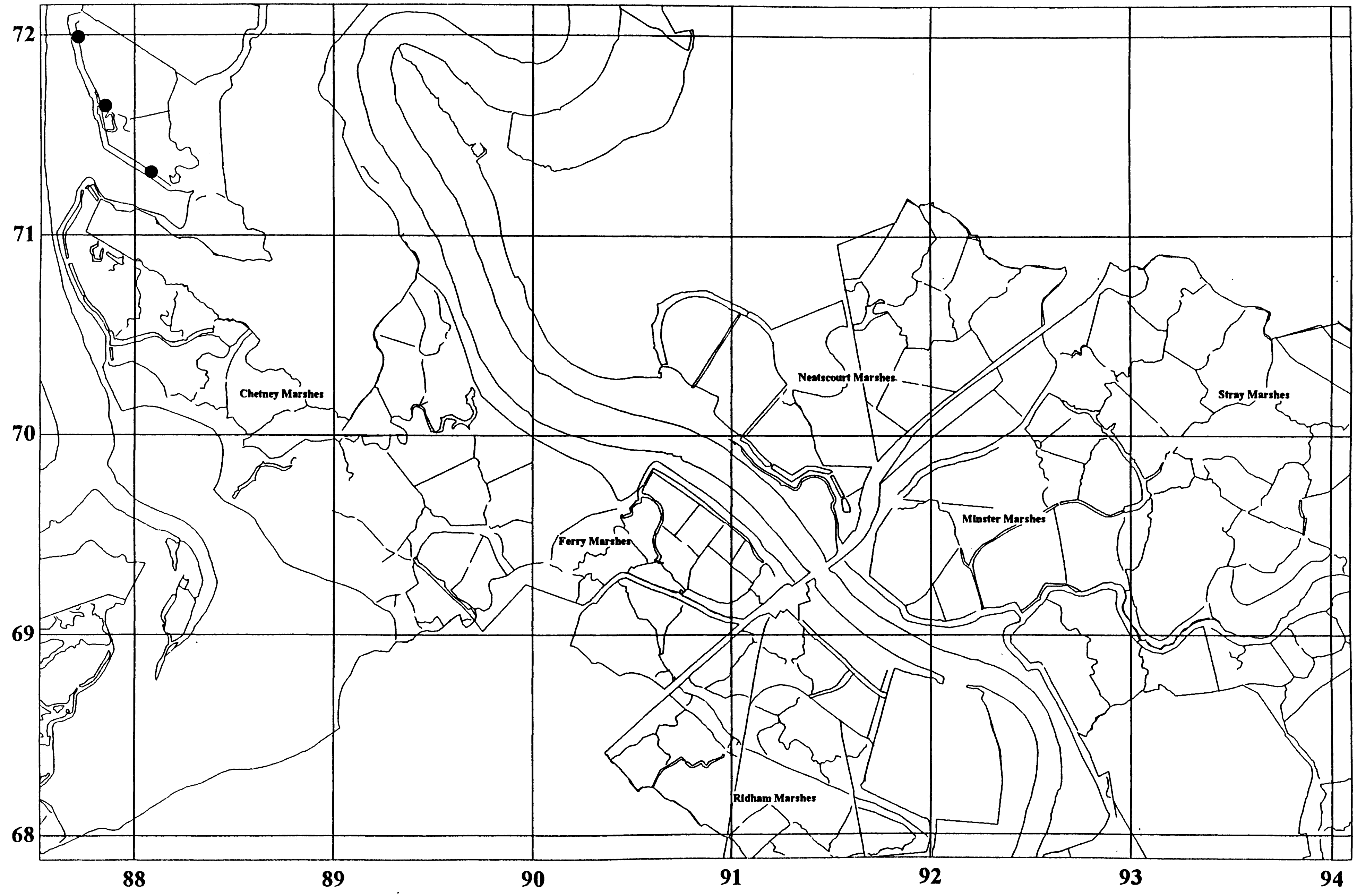
Juncus gerardii



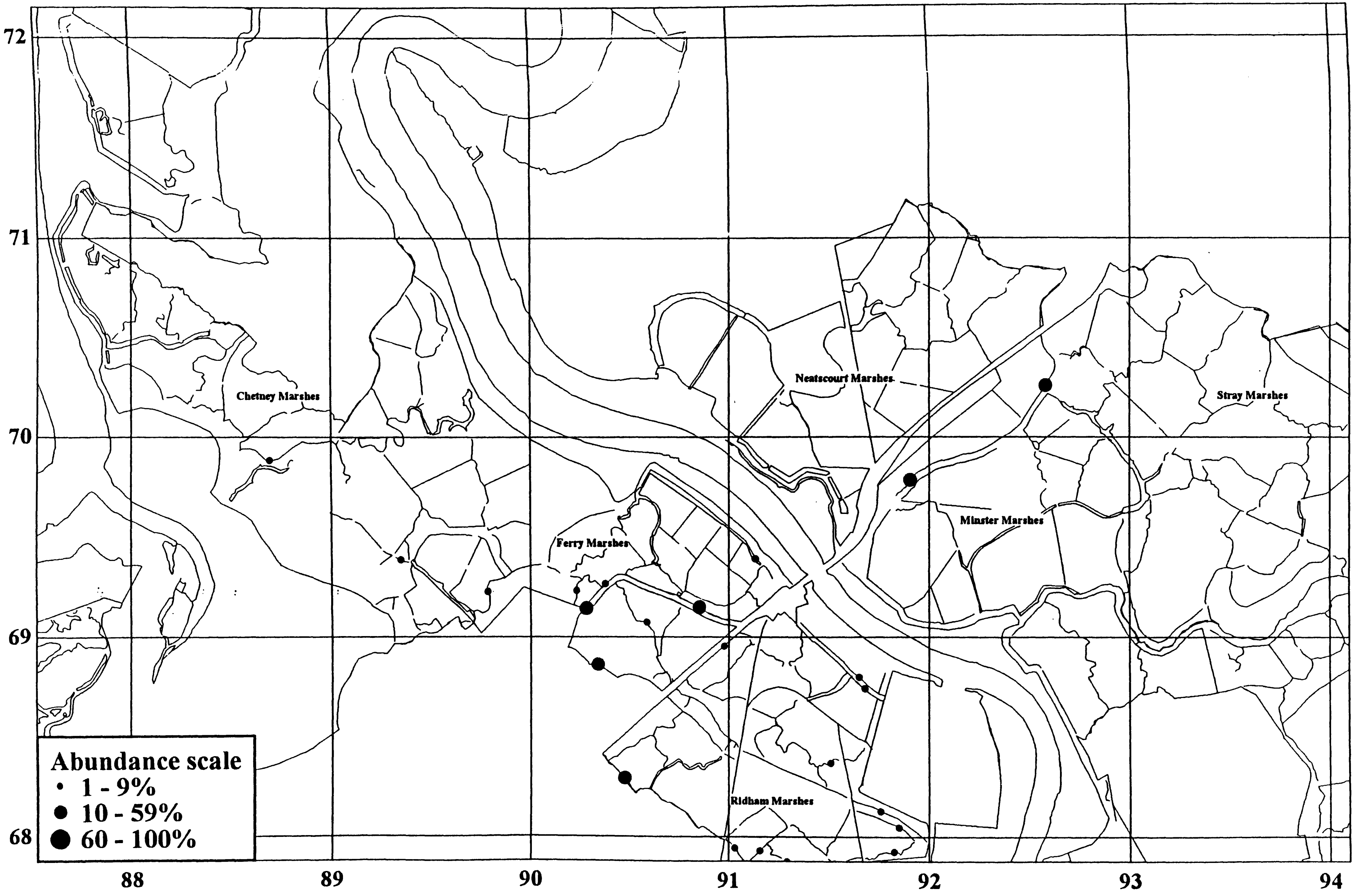
Juncus maritima



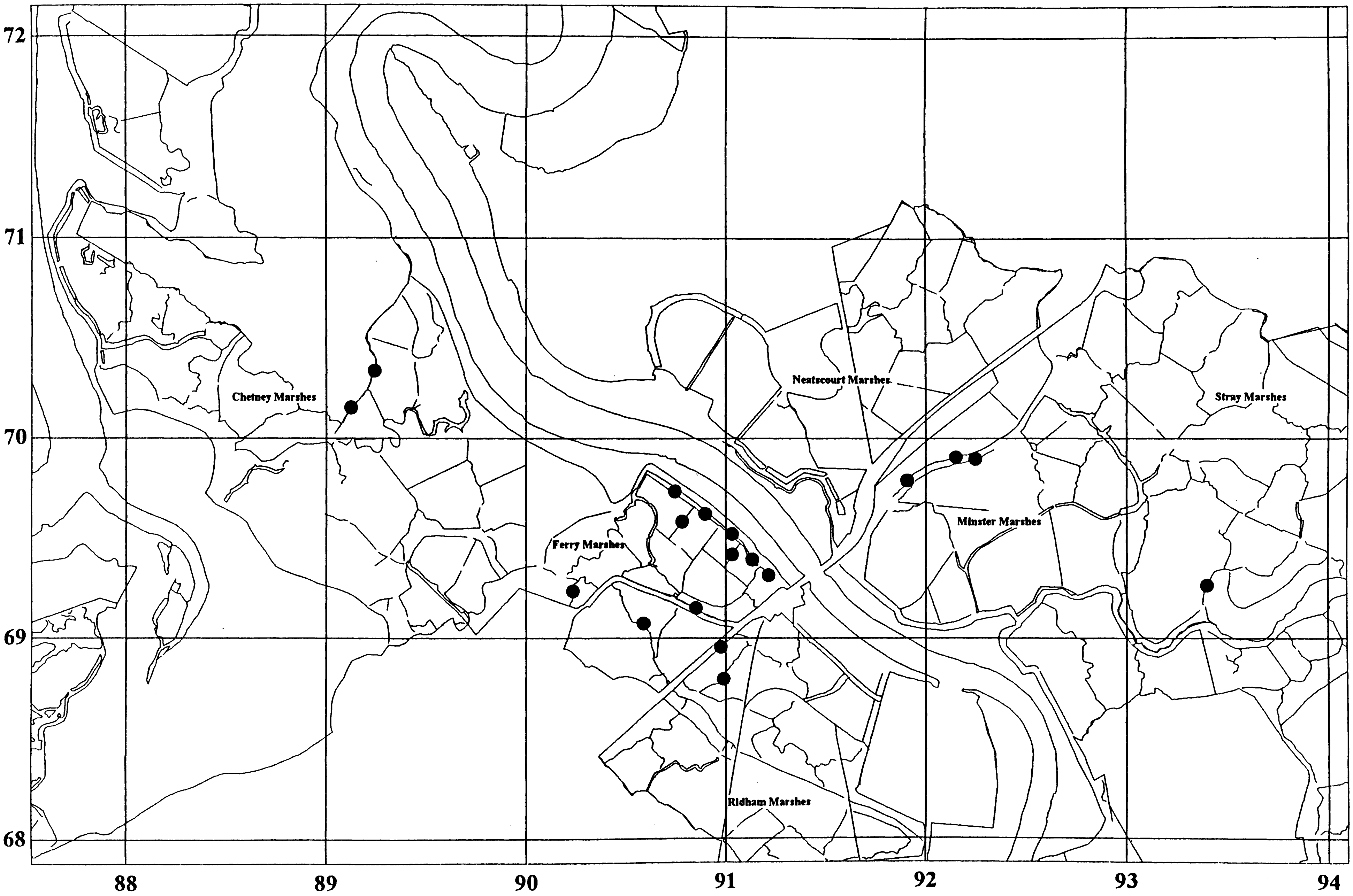
Polypogon monspeliensis



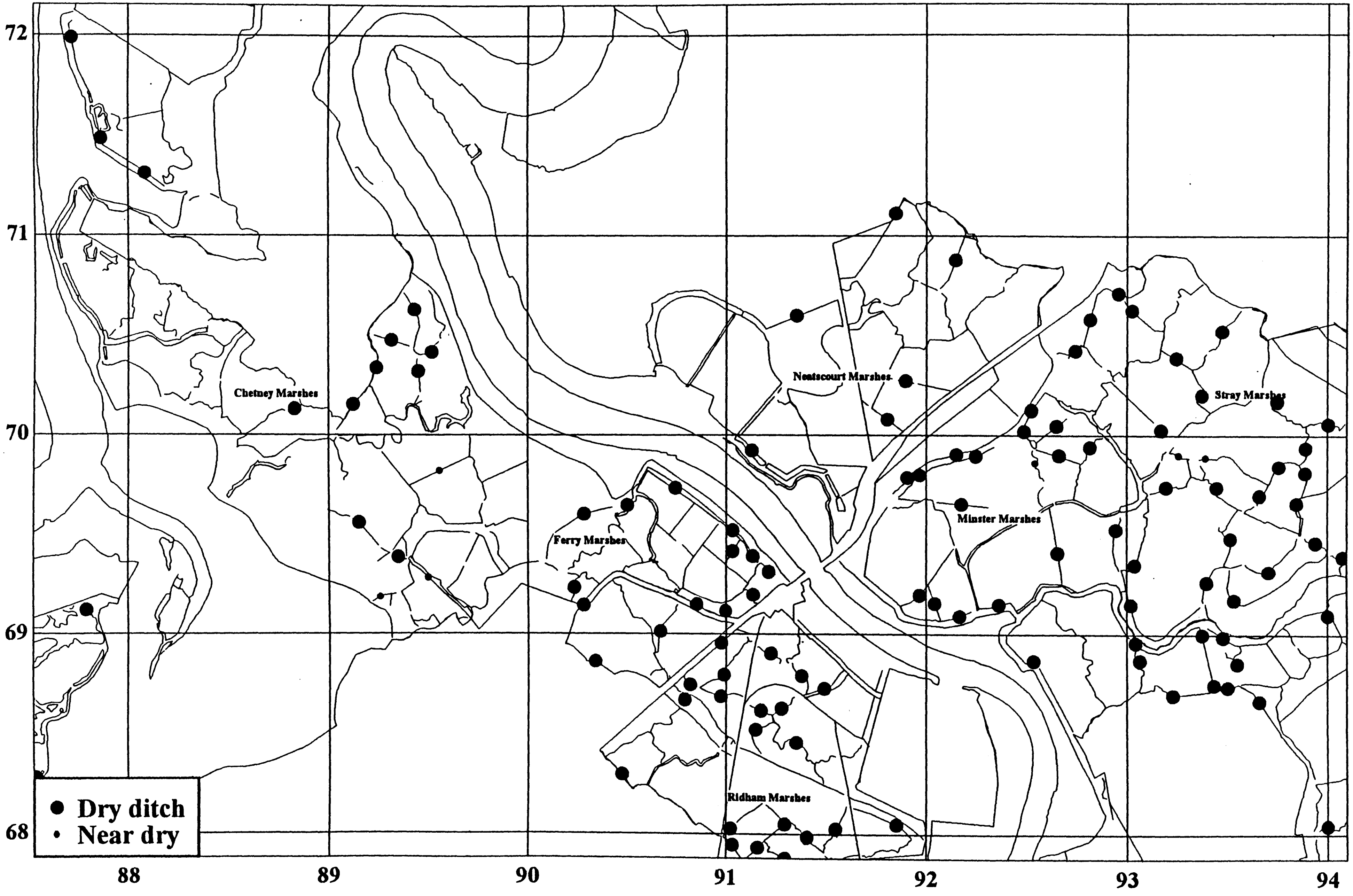
Scrub cover


72
71
70
69
68
88
89
90
91
92
93
94
Chetney Marshes
Neatscourt Marshes
Stray Marshes
Minster Marshes
Ferry Marshes
Ridham Marshes
Abundance scale
• 1 - 9%
● 10 - 59%
● 60 - 100%

Ditch choked



Ditch dry


72
71
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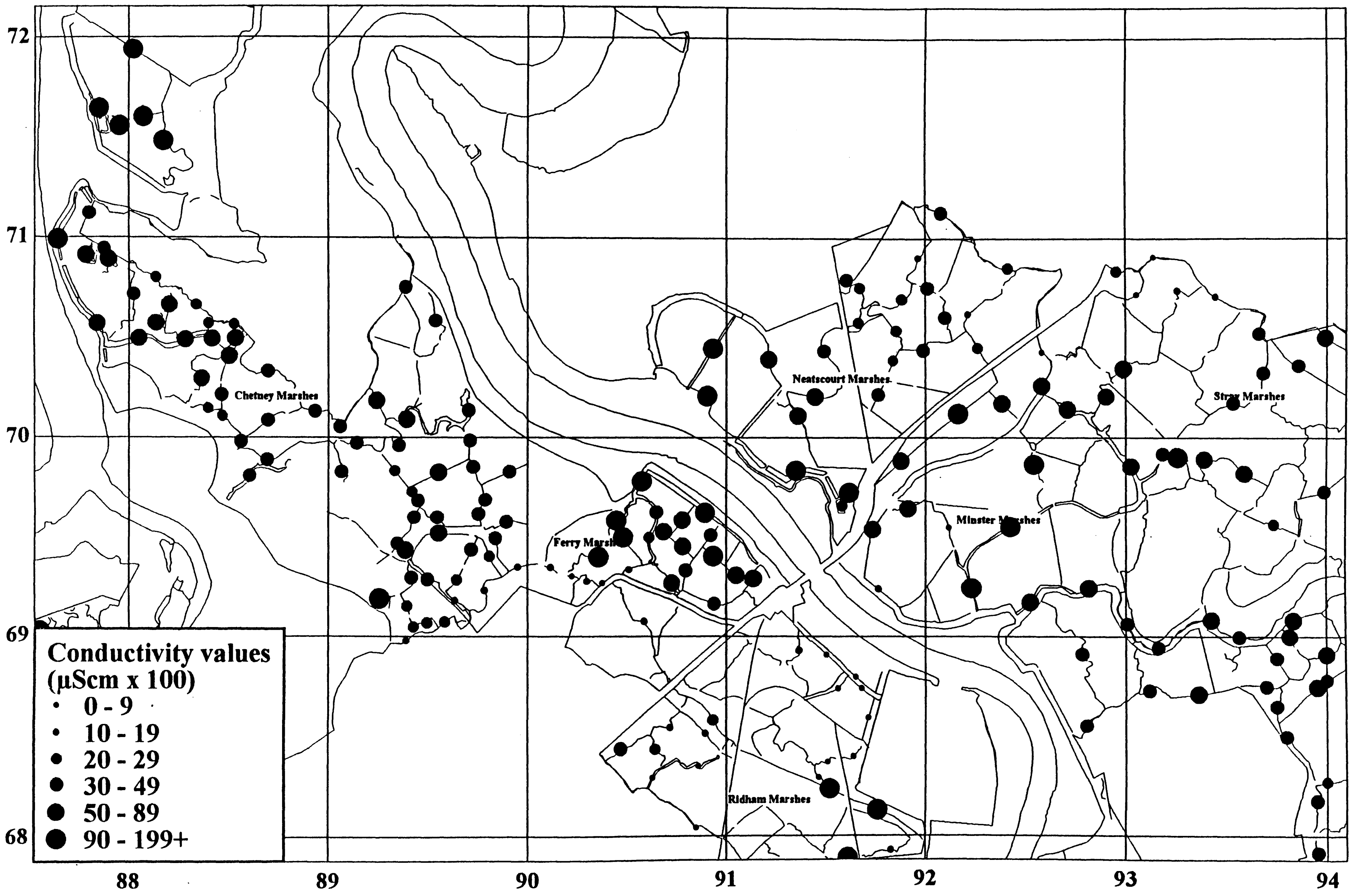
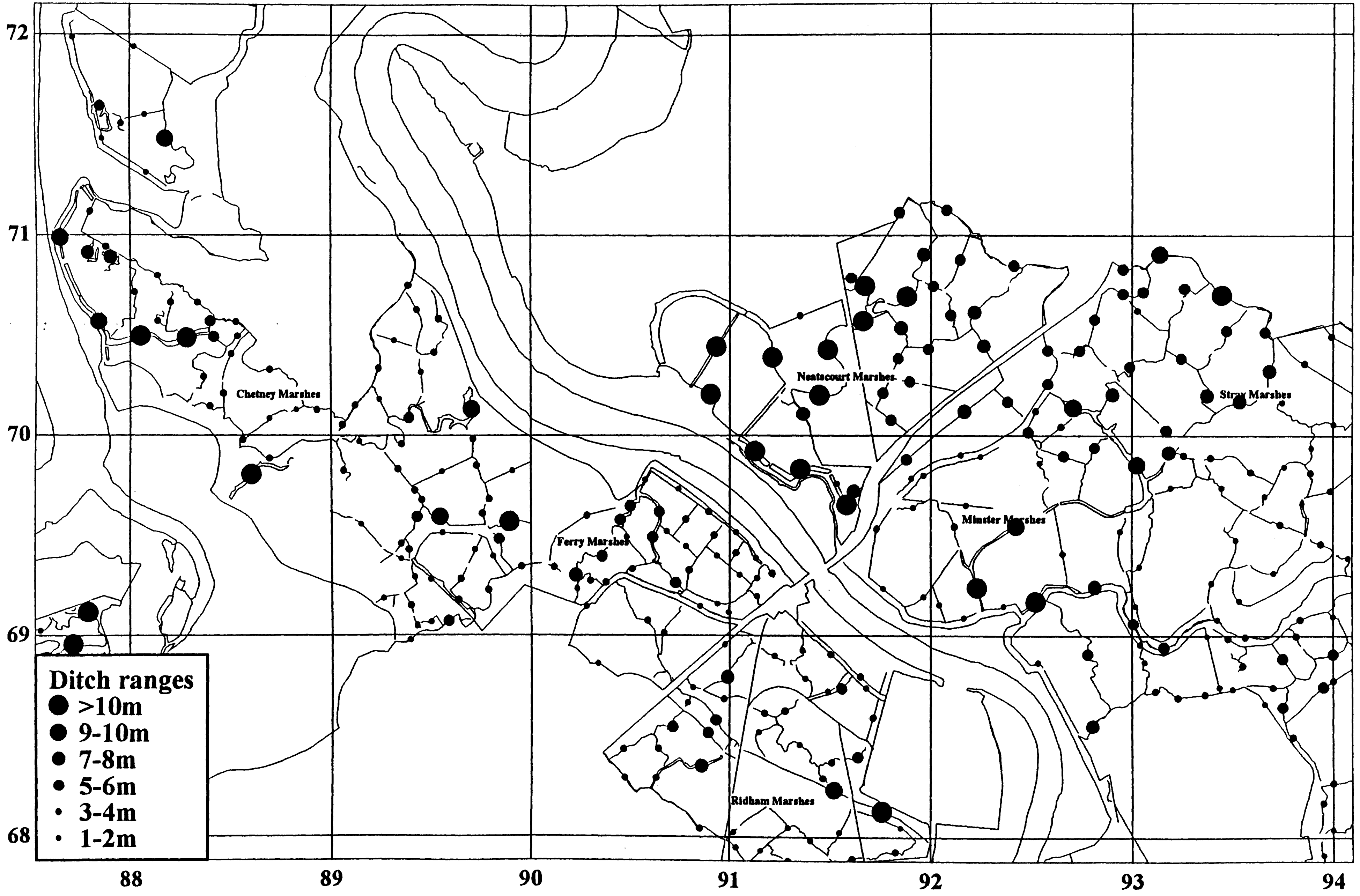
68
88
89
90
91
92
93
94
Chetney Marshes
Neatscourt Marshes
Stray Marshes
Minster Marshes
Ferry Marshes
Ridham Marshes
● Dry ditch
• Near dry

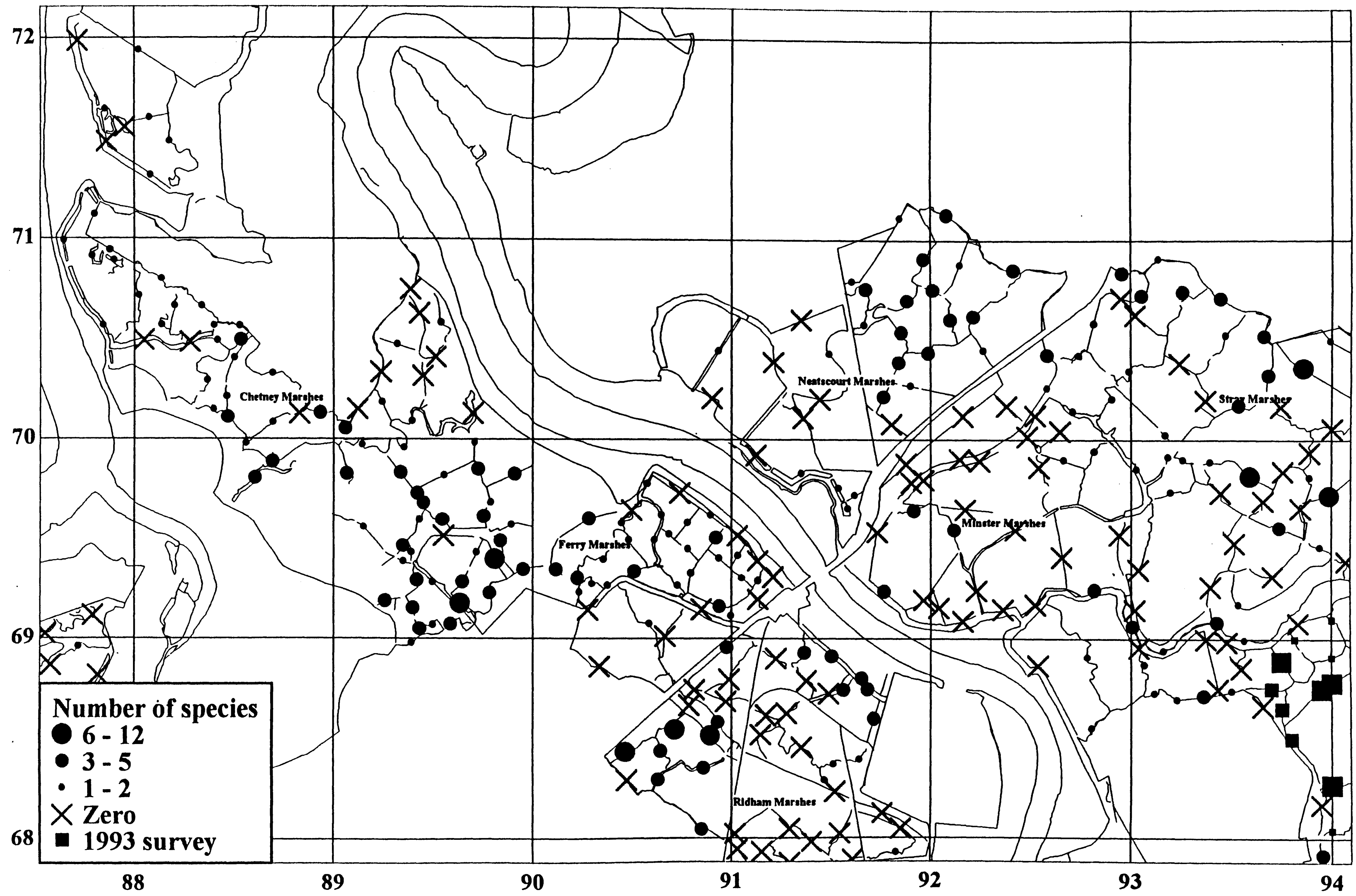
Conductivity values



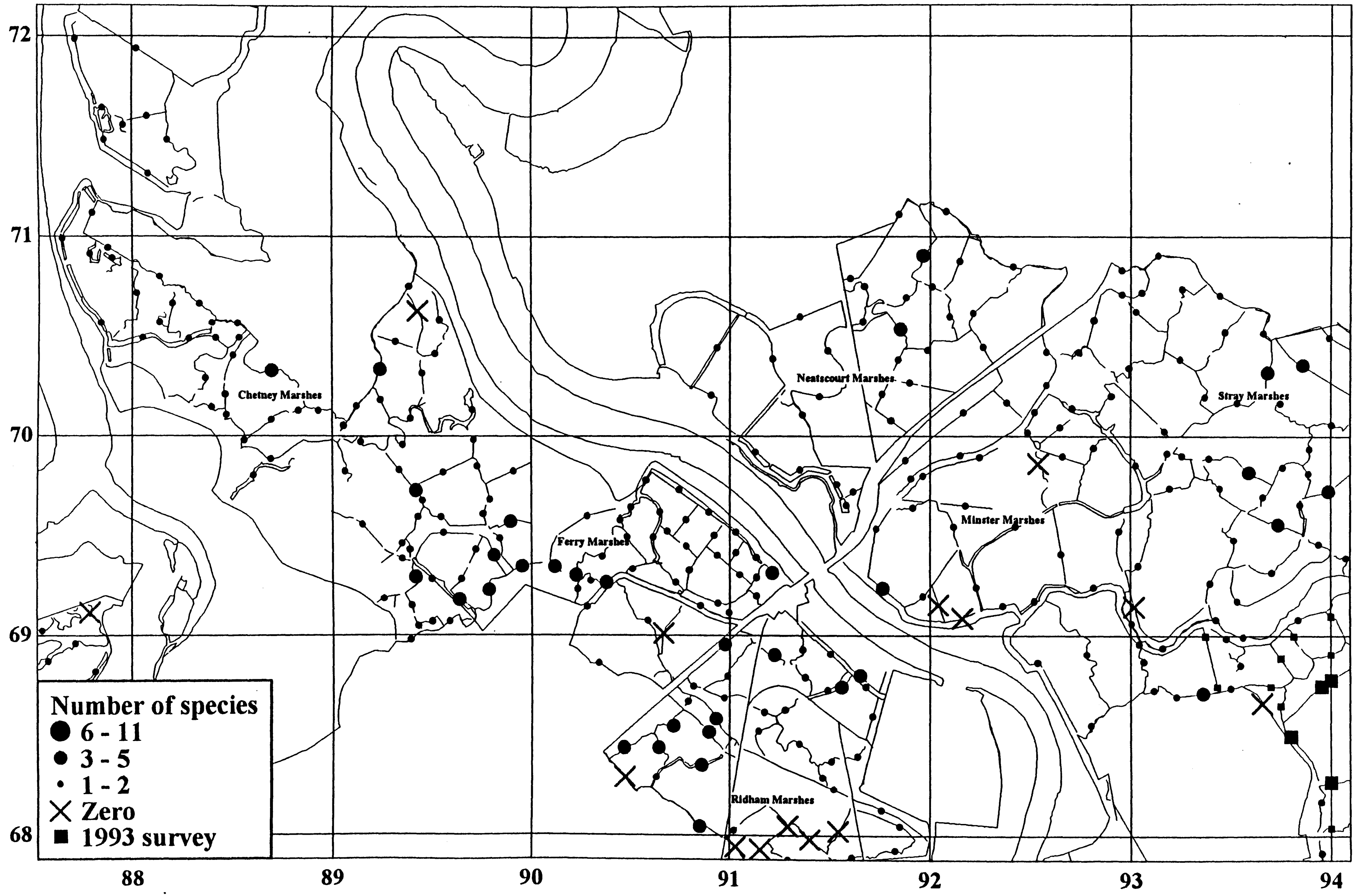
Ditch widths



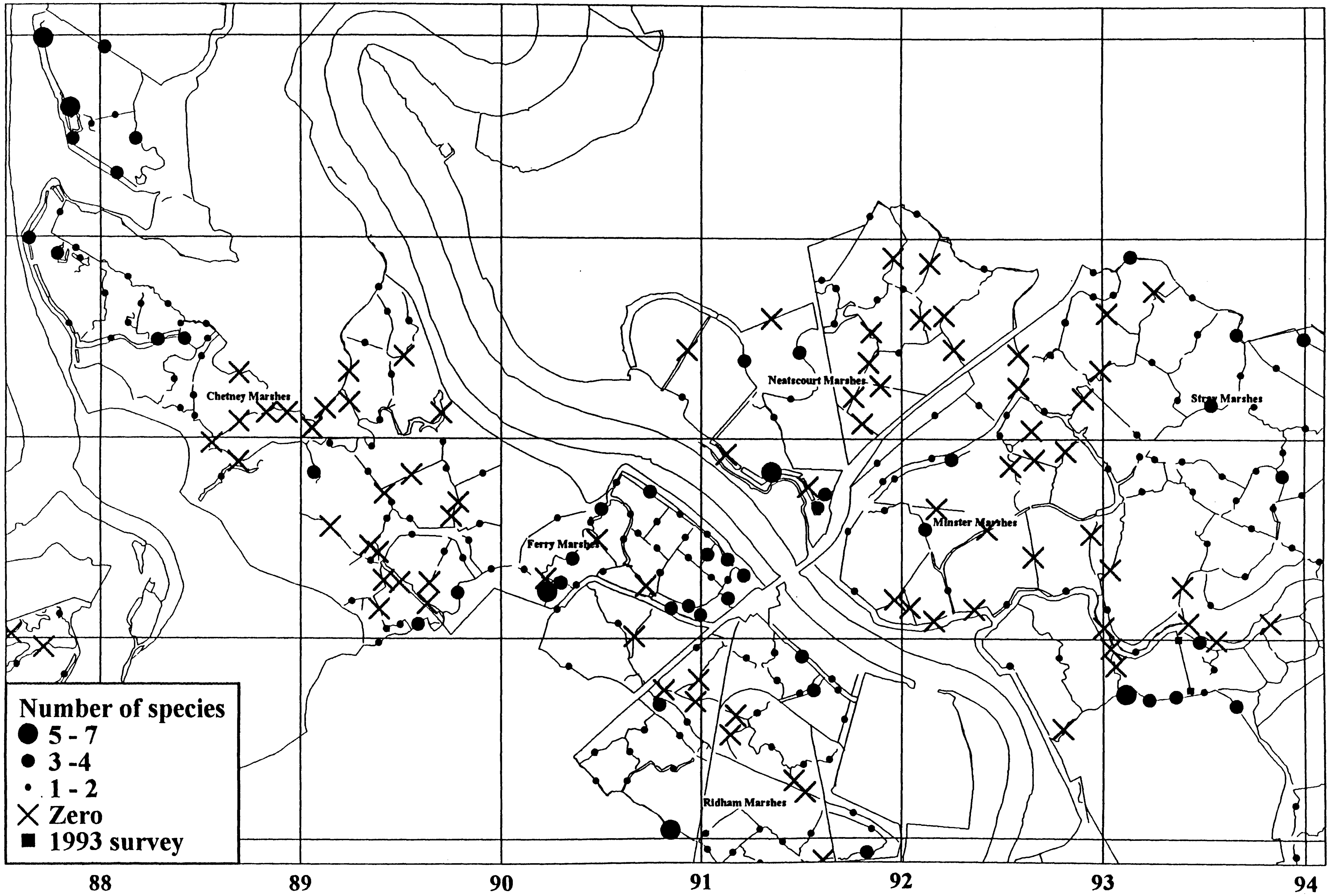
Number of aquatic species



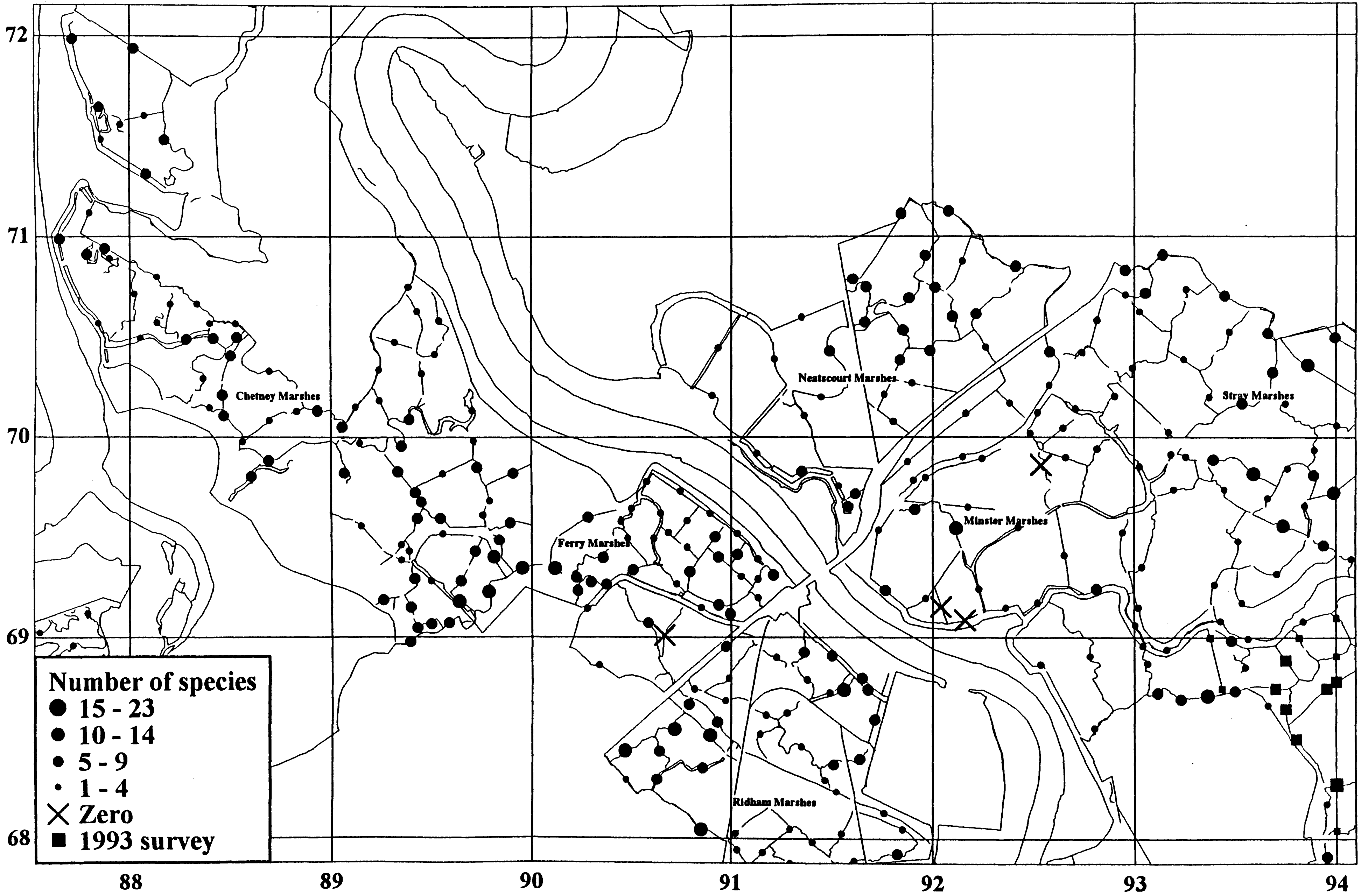
Number of emergent species



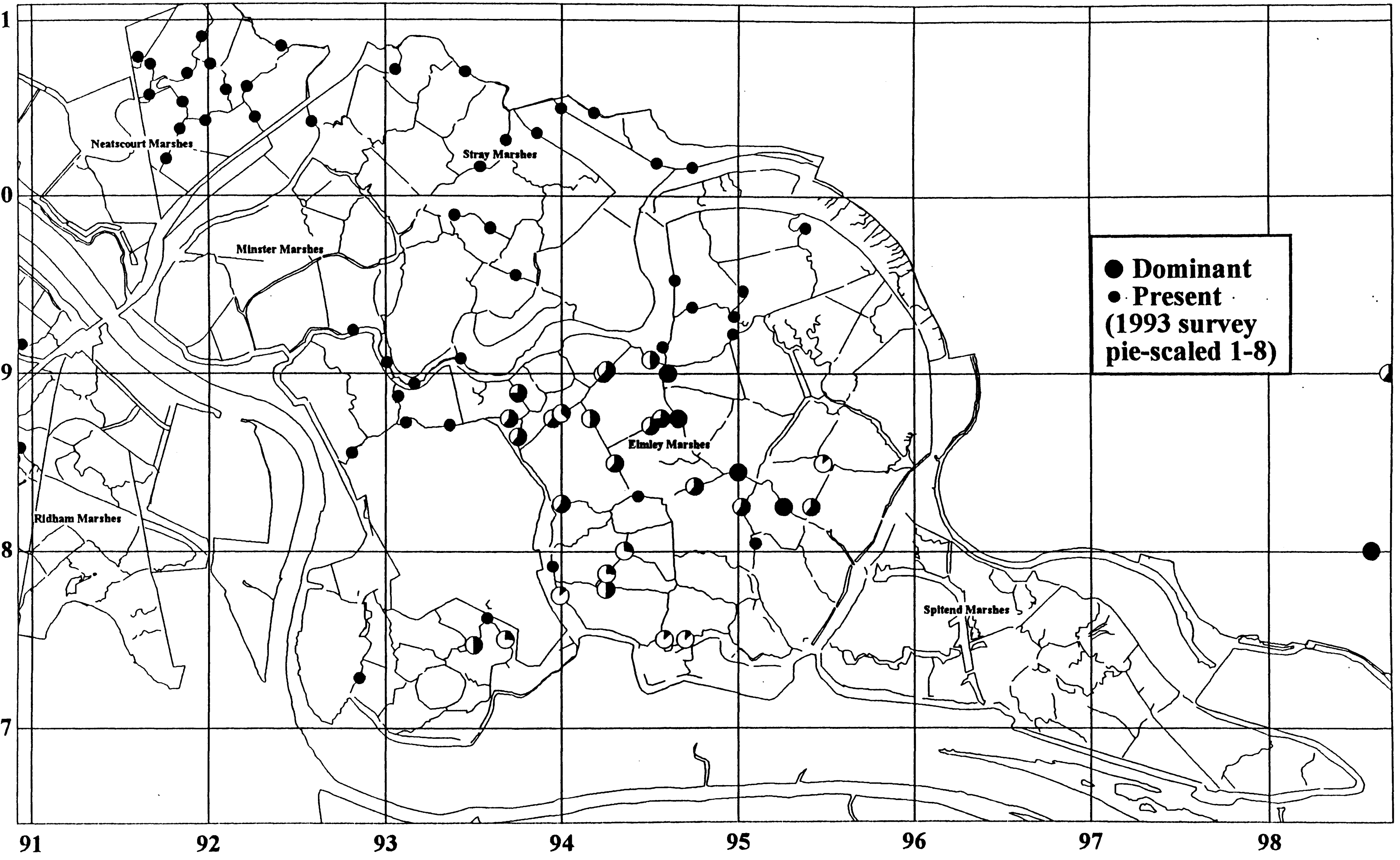
Number of bank species



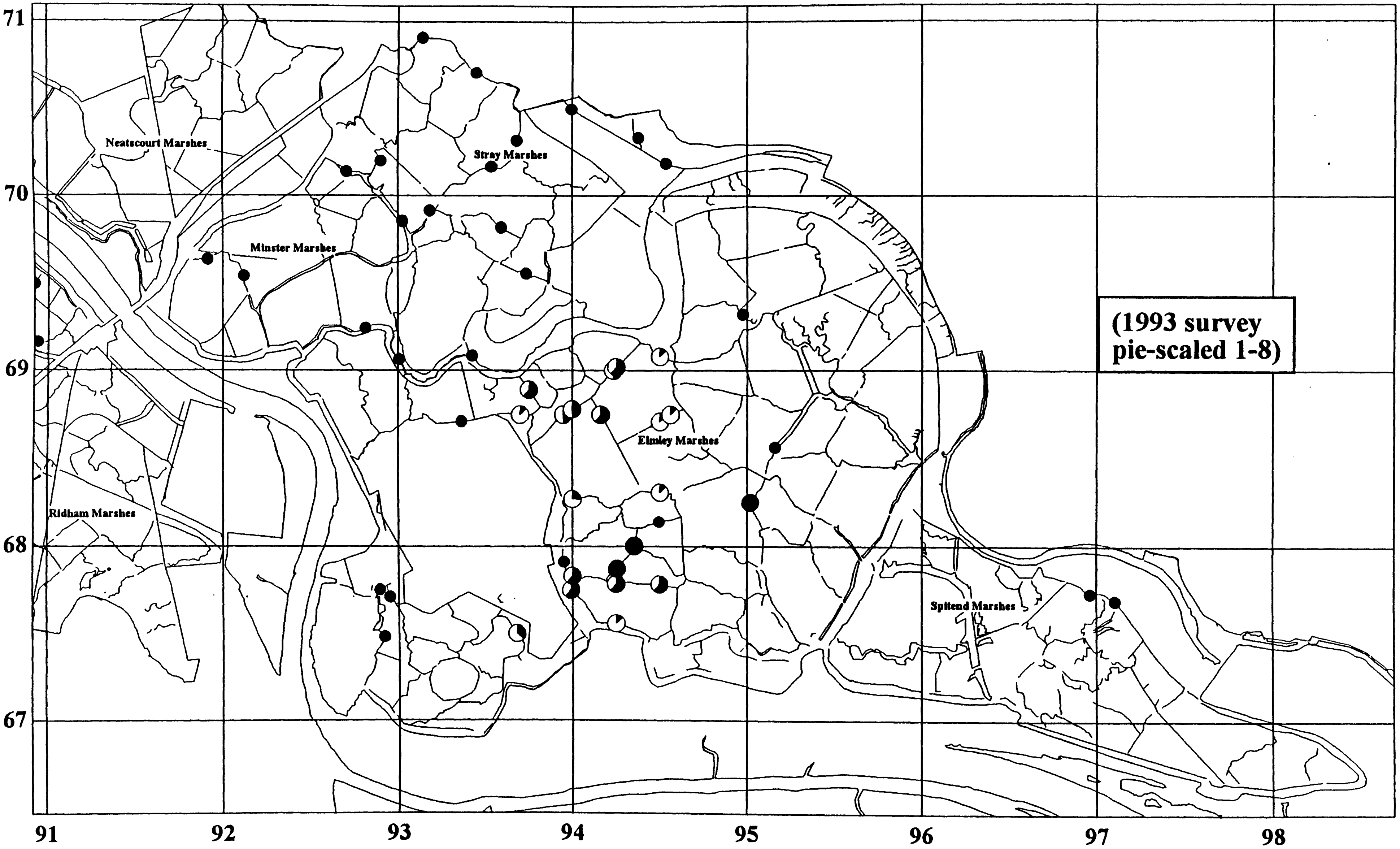
Total number of species



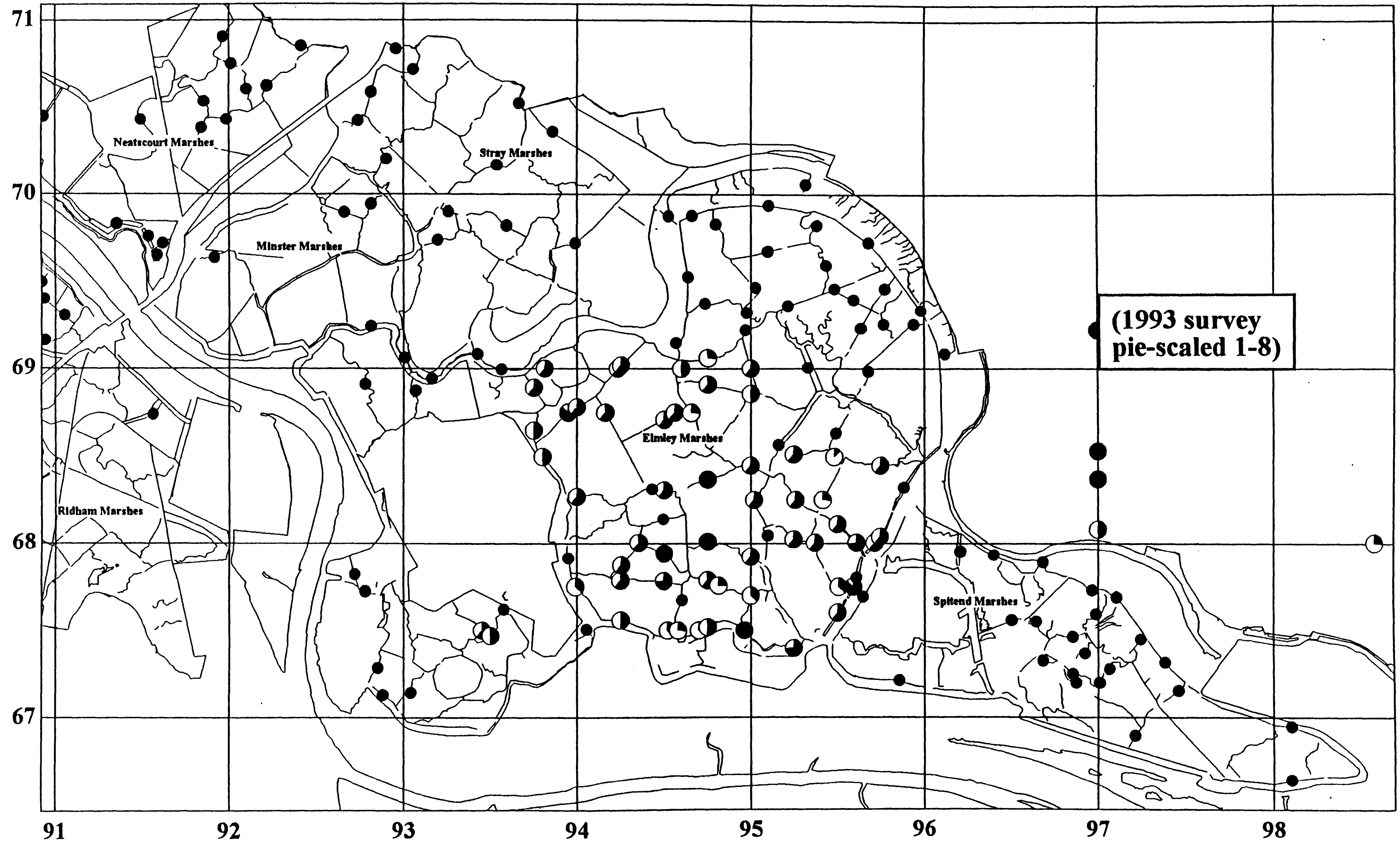
Ceratophyllum submersum



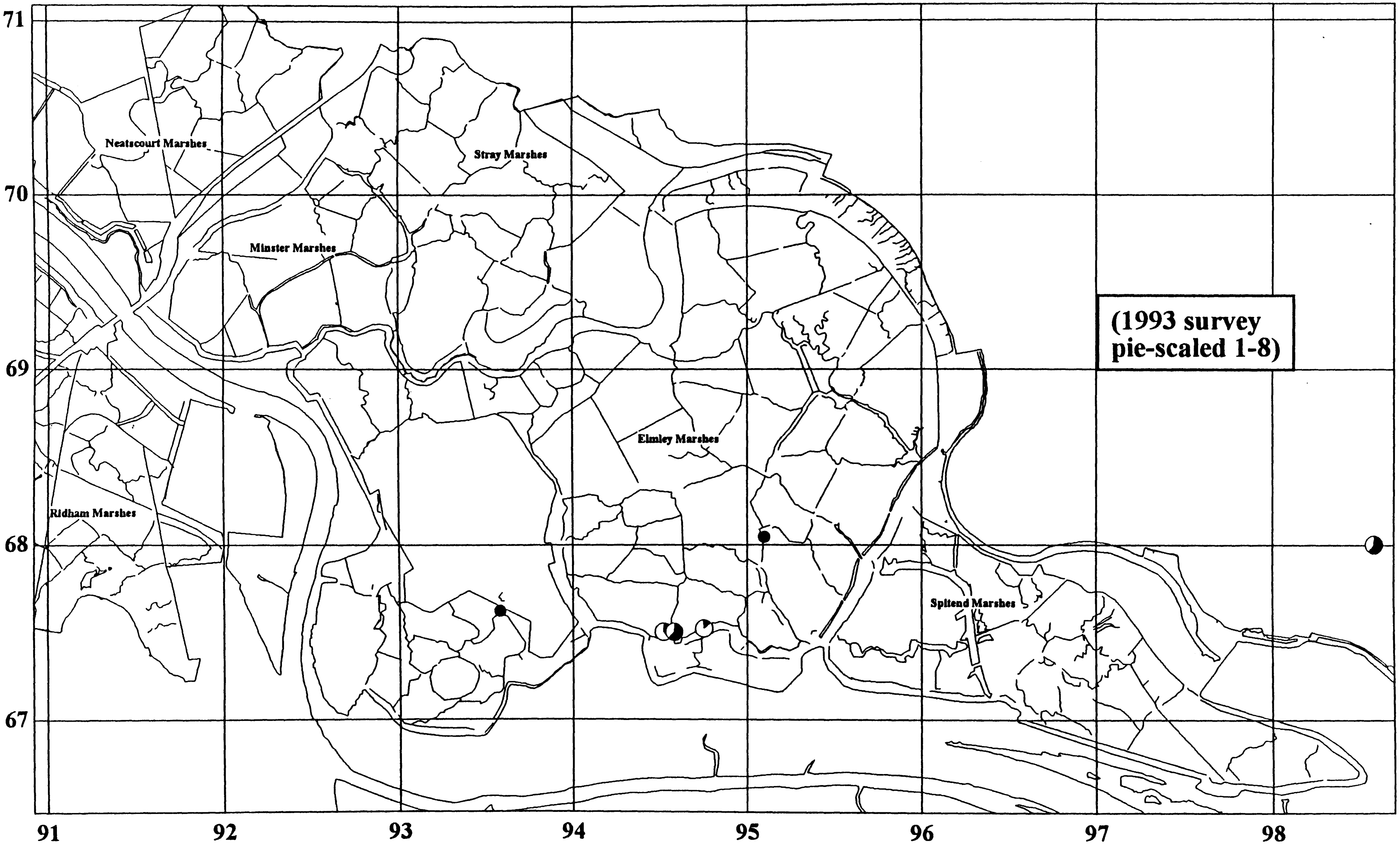
Myriophyllum spicatum



Potamogeton pectinatus

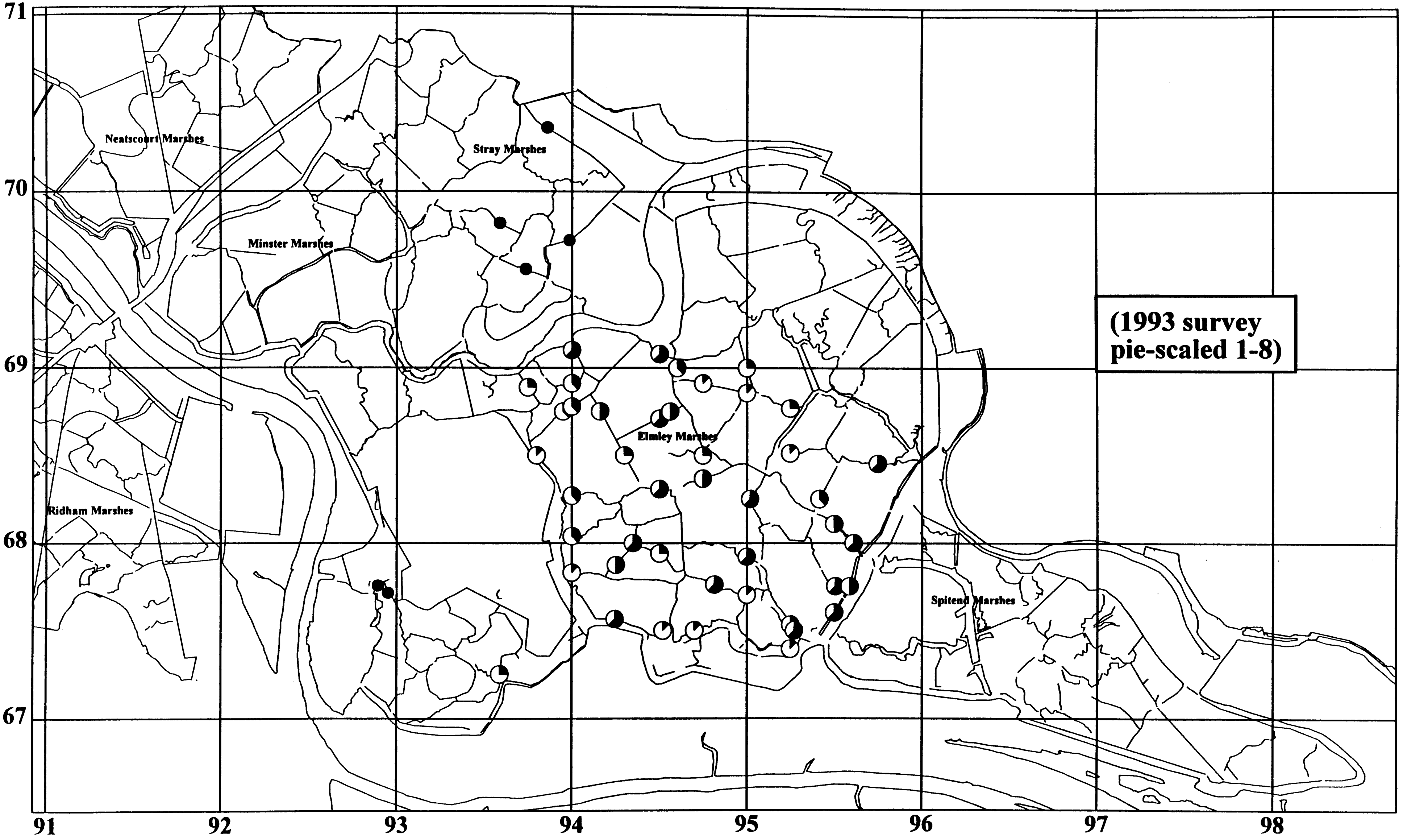


Potamogeton pusillus/berchtoldii

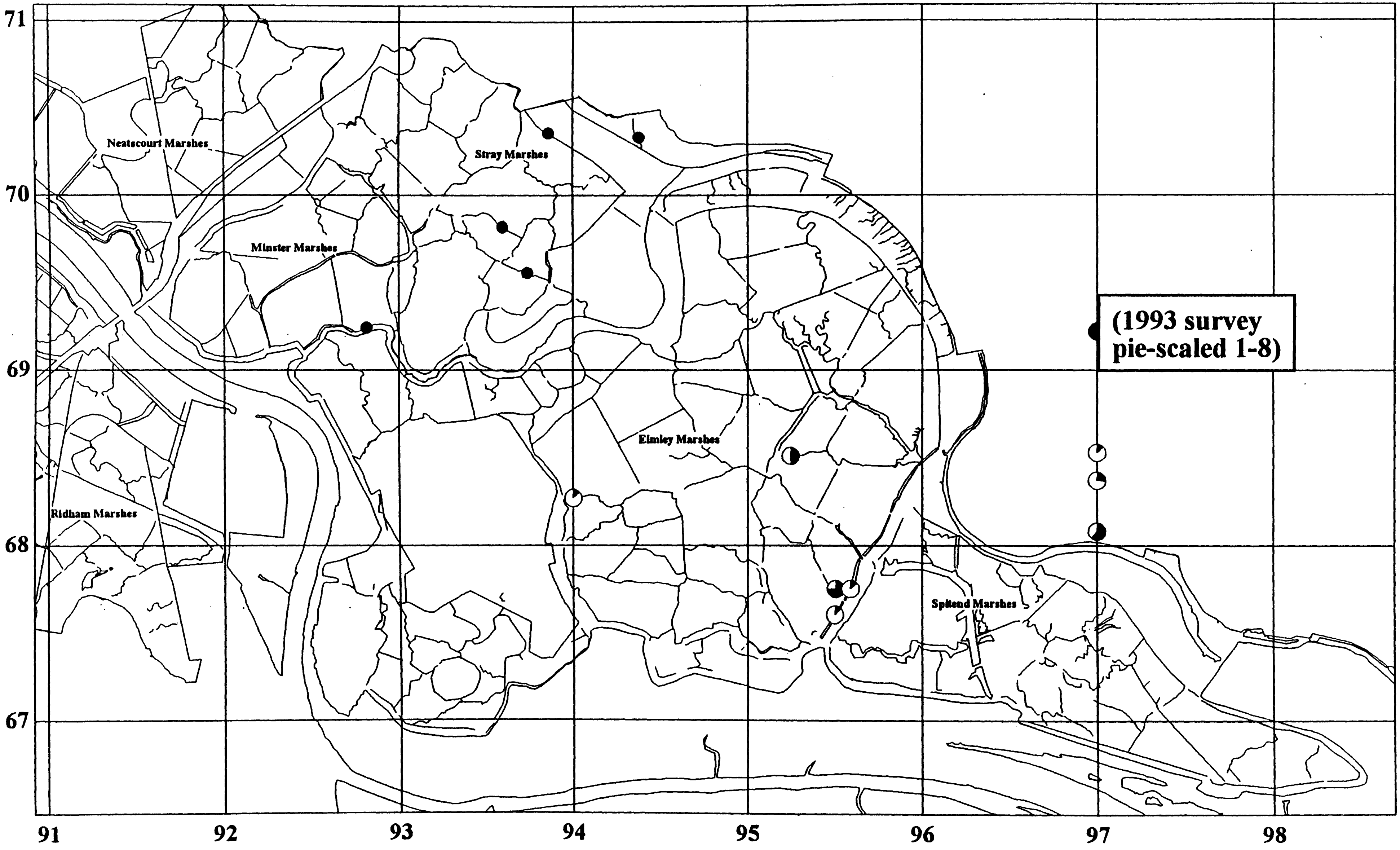


(1993 survey pie-scaled 1-8)

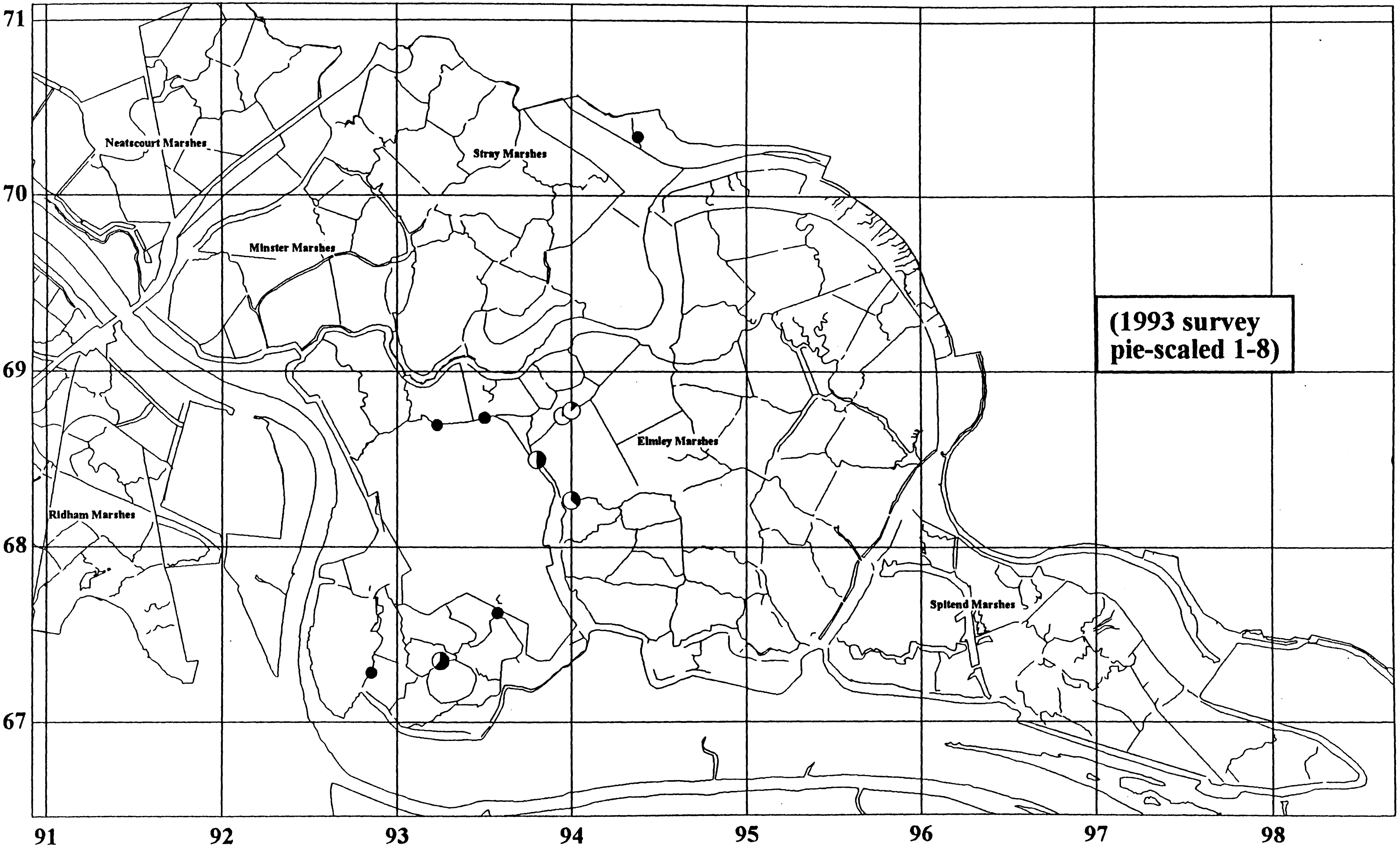
Ranunculus baudotii



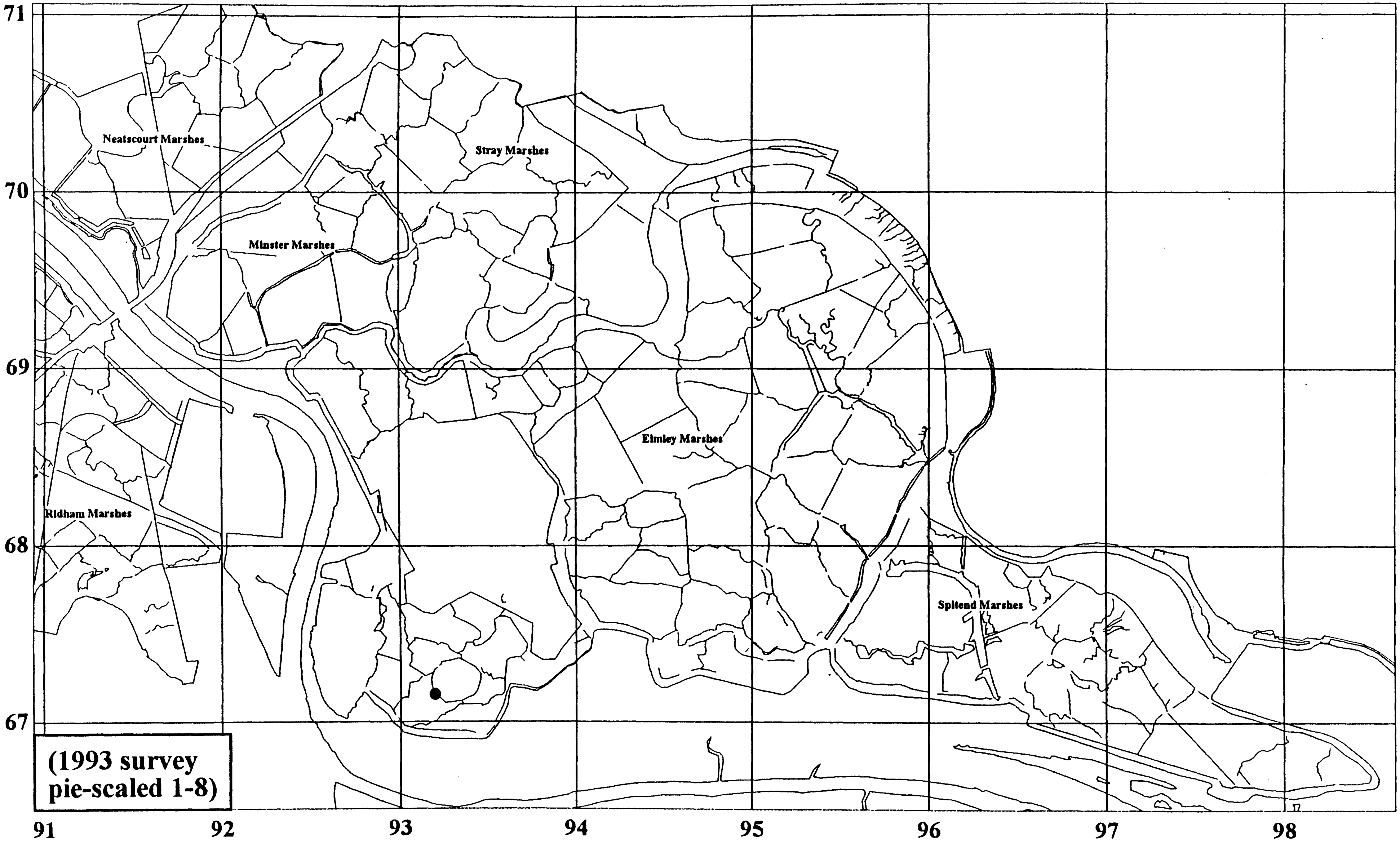
Zannichellia palustris



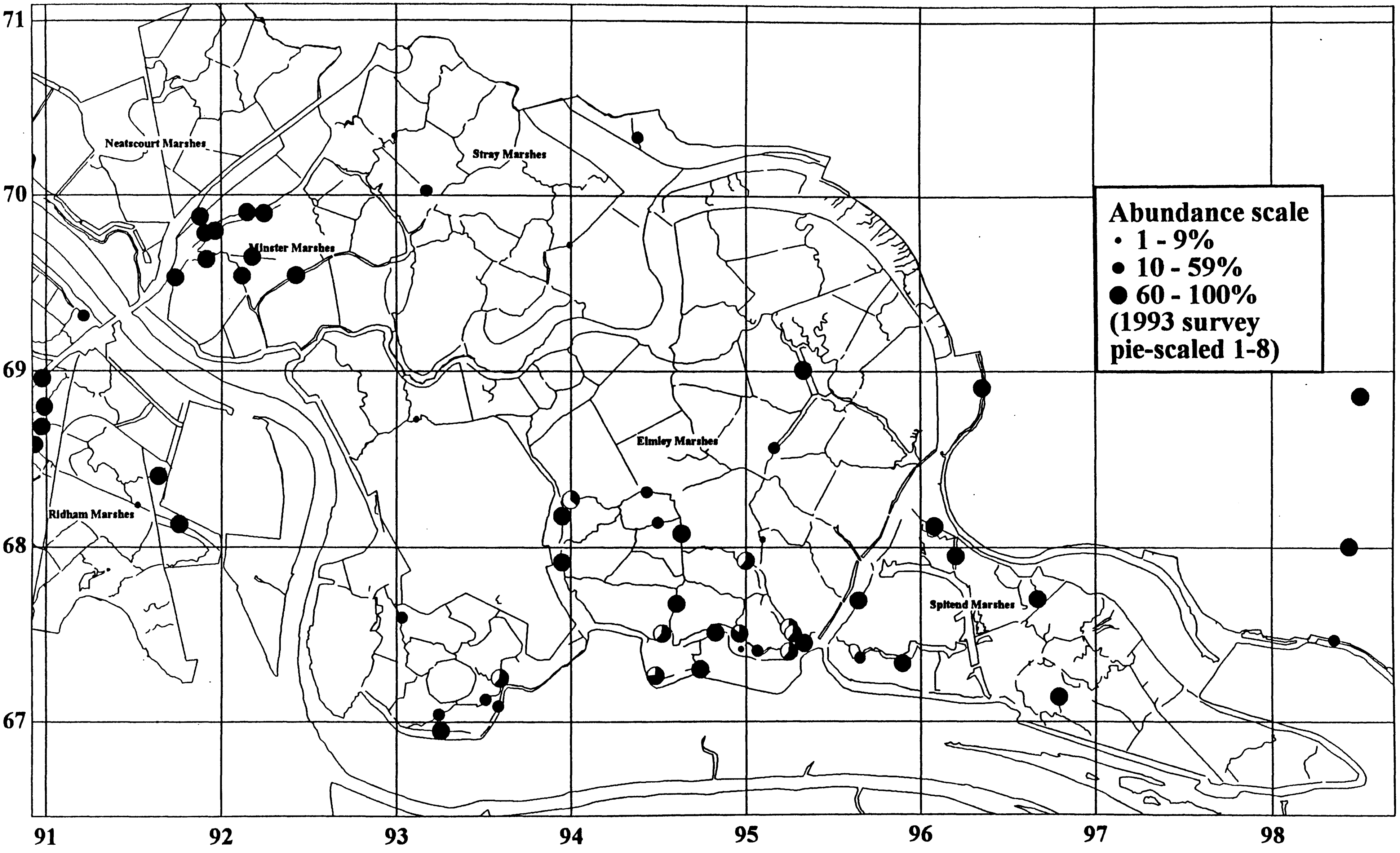
Alisma plantago-aquatica



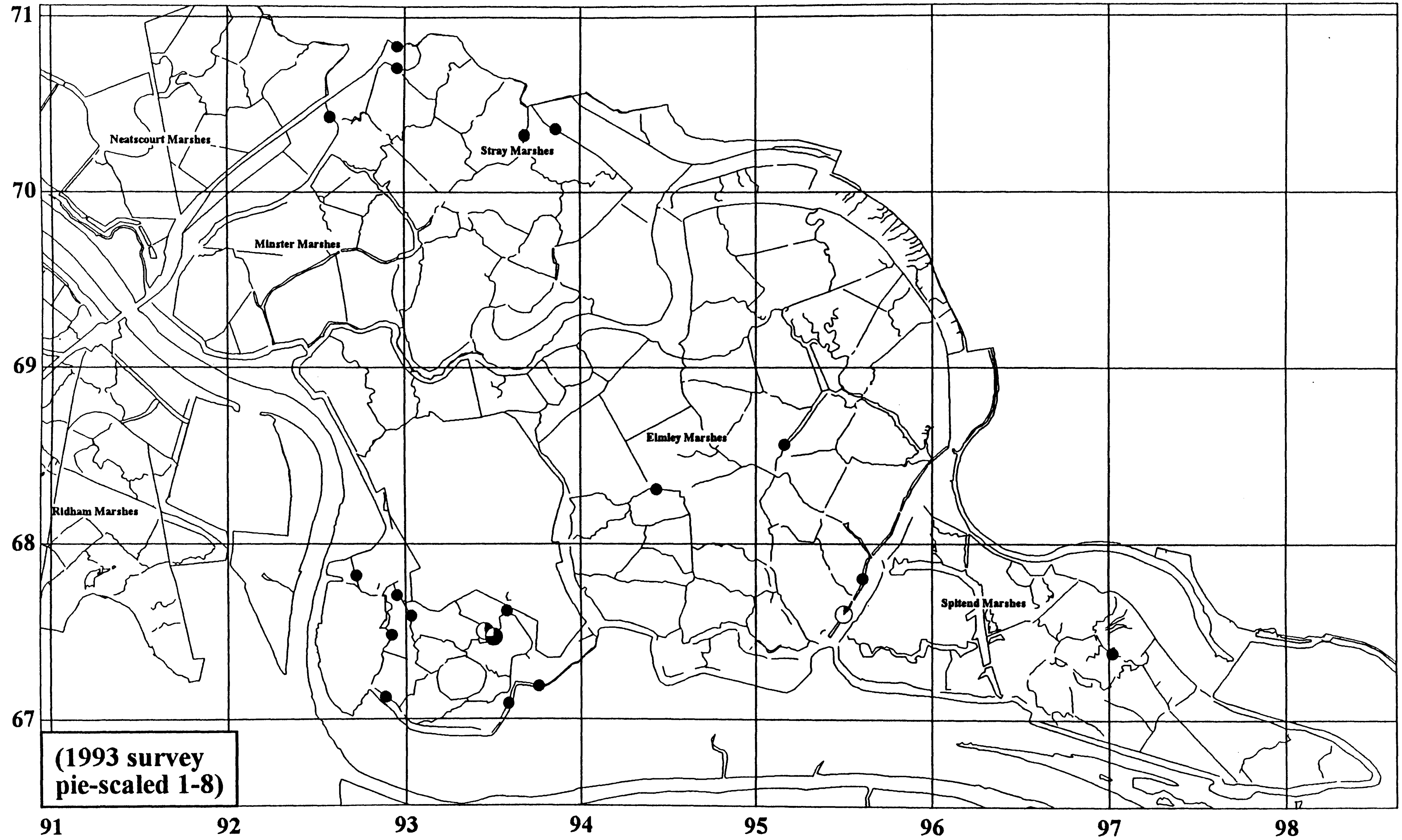
Berula erecta



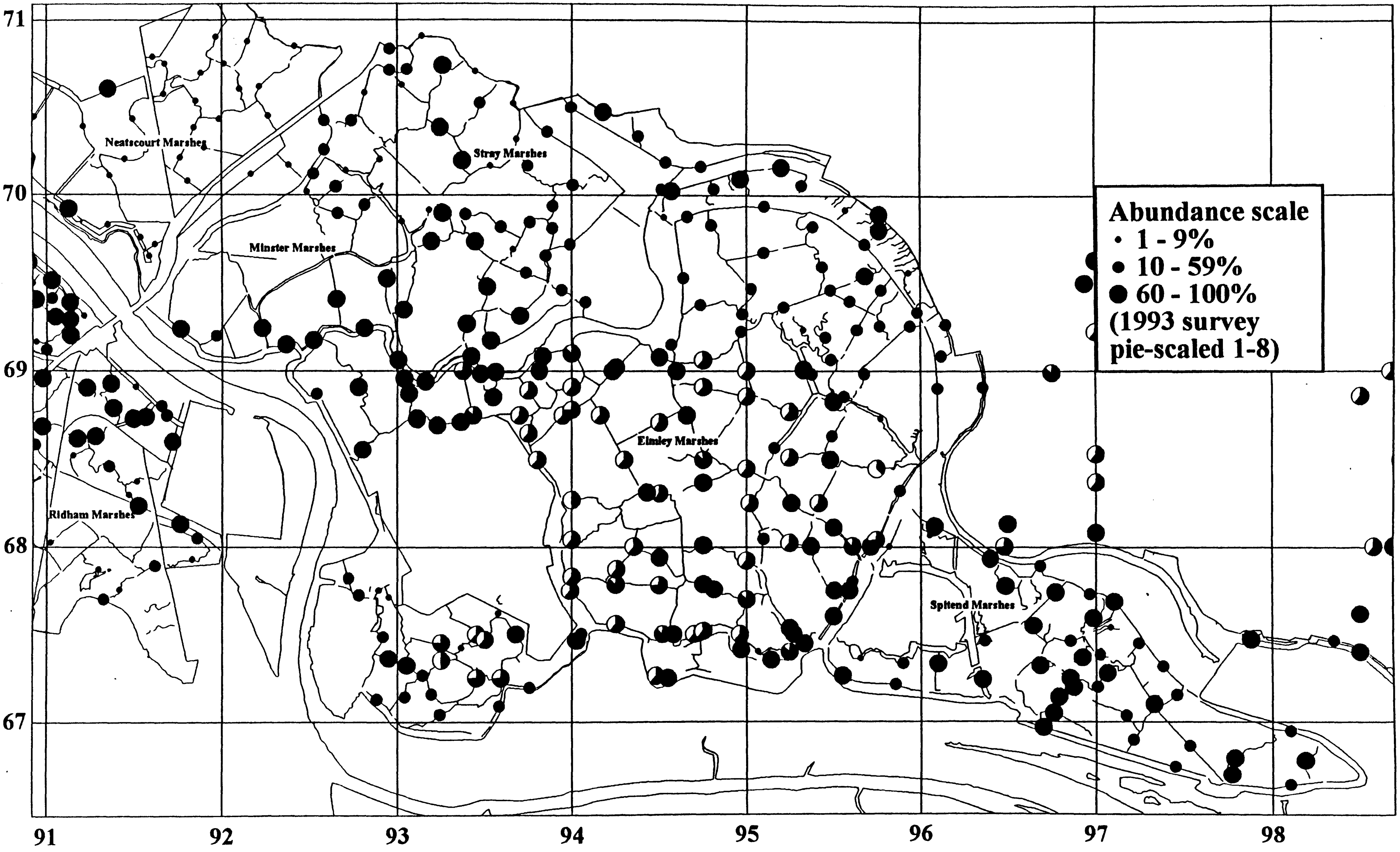
Phragmites australis



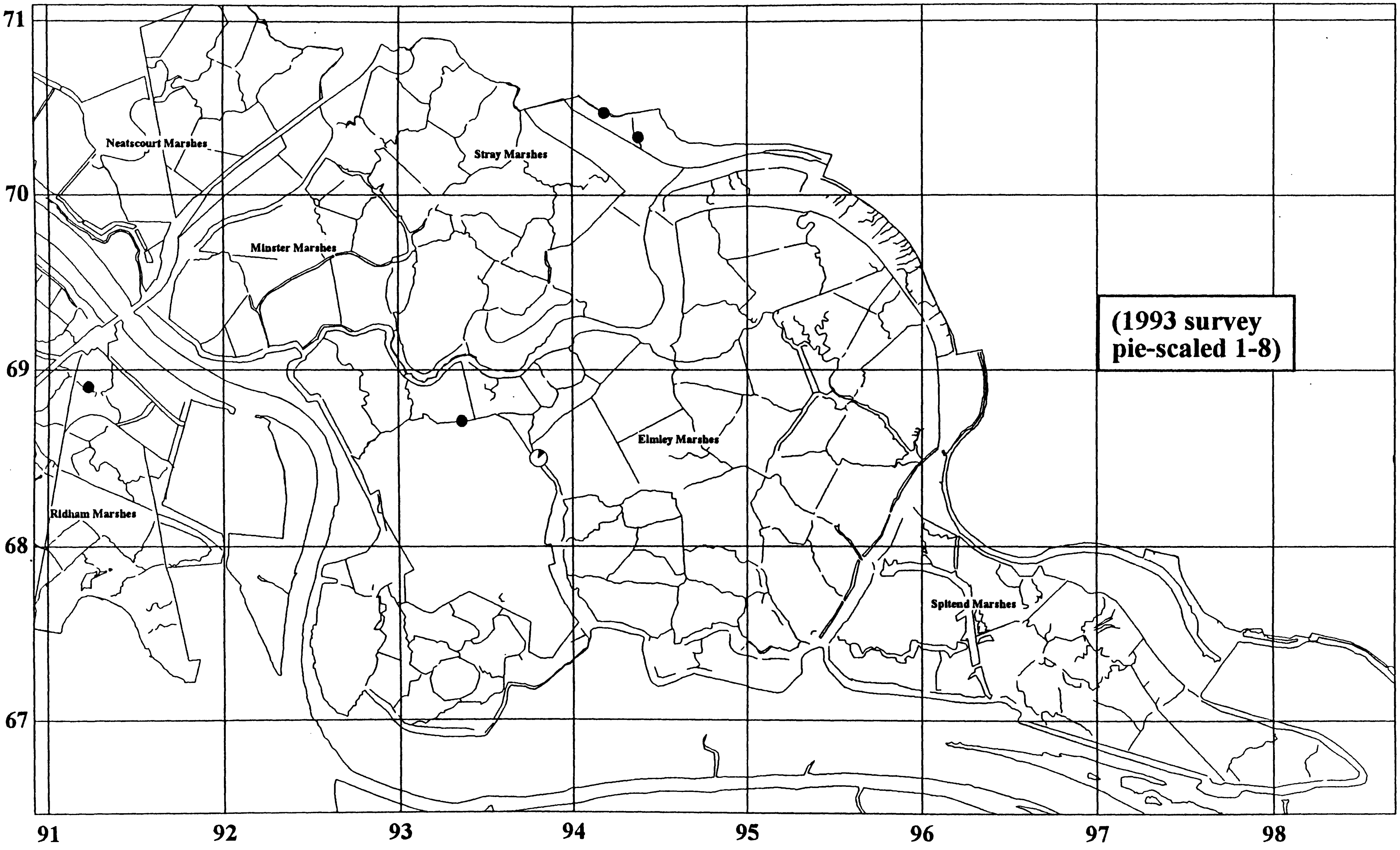
Scirpus lacustris



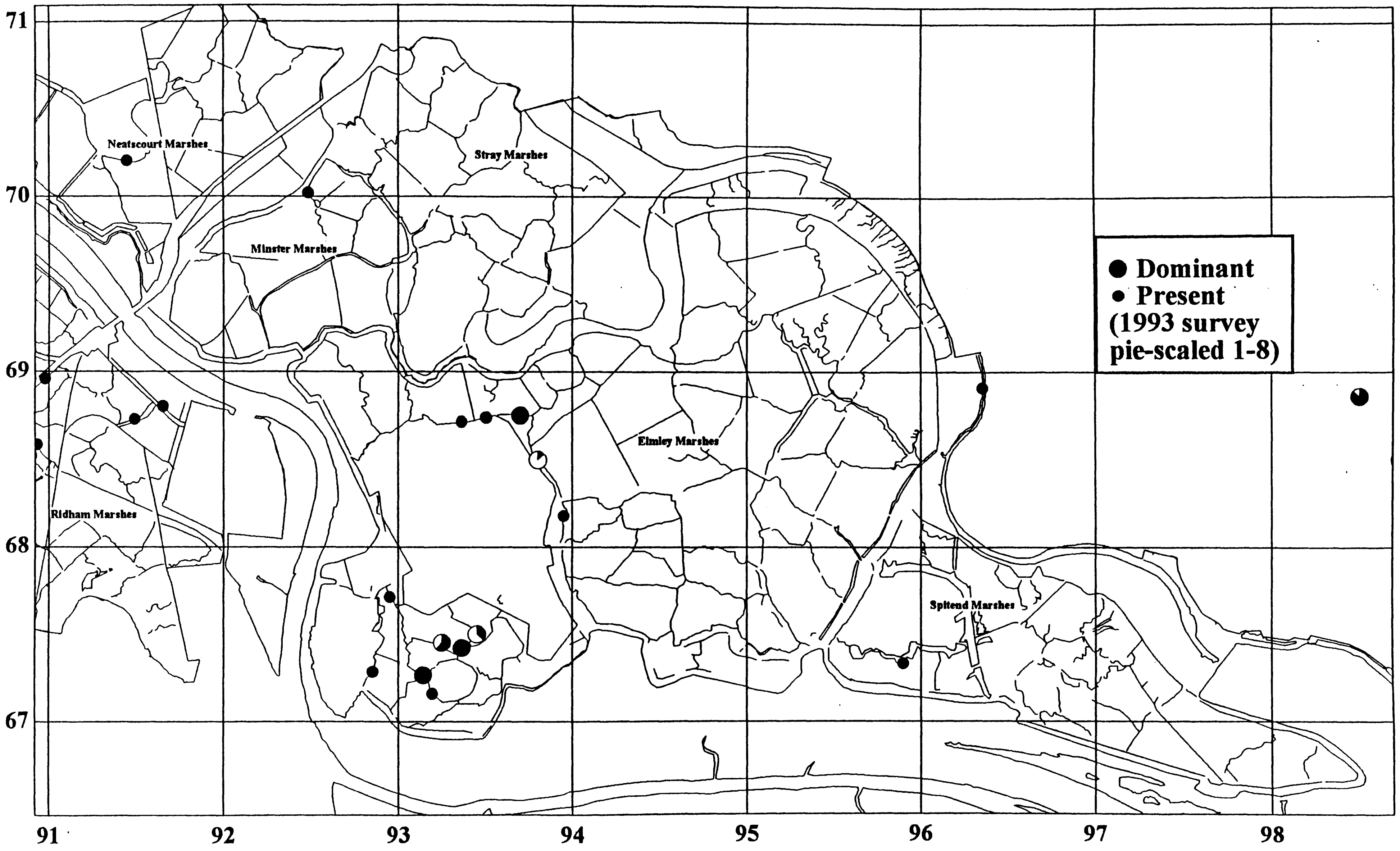
Scirpus maritimus



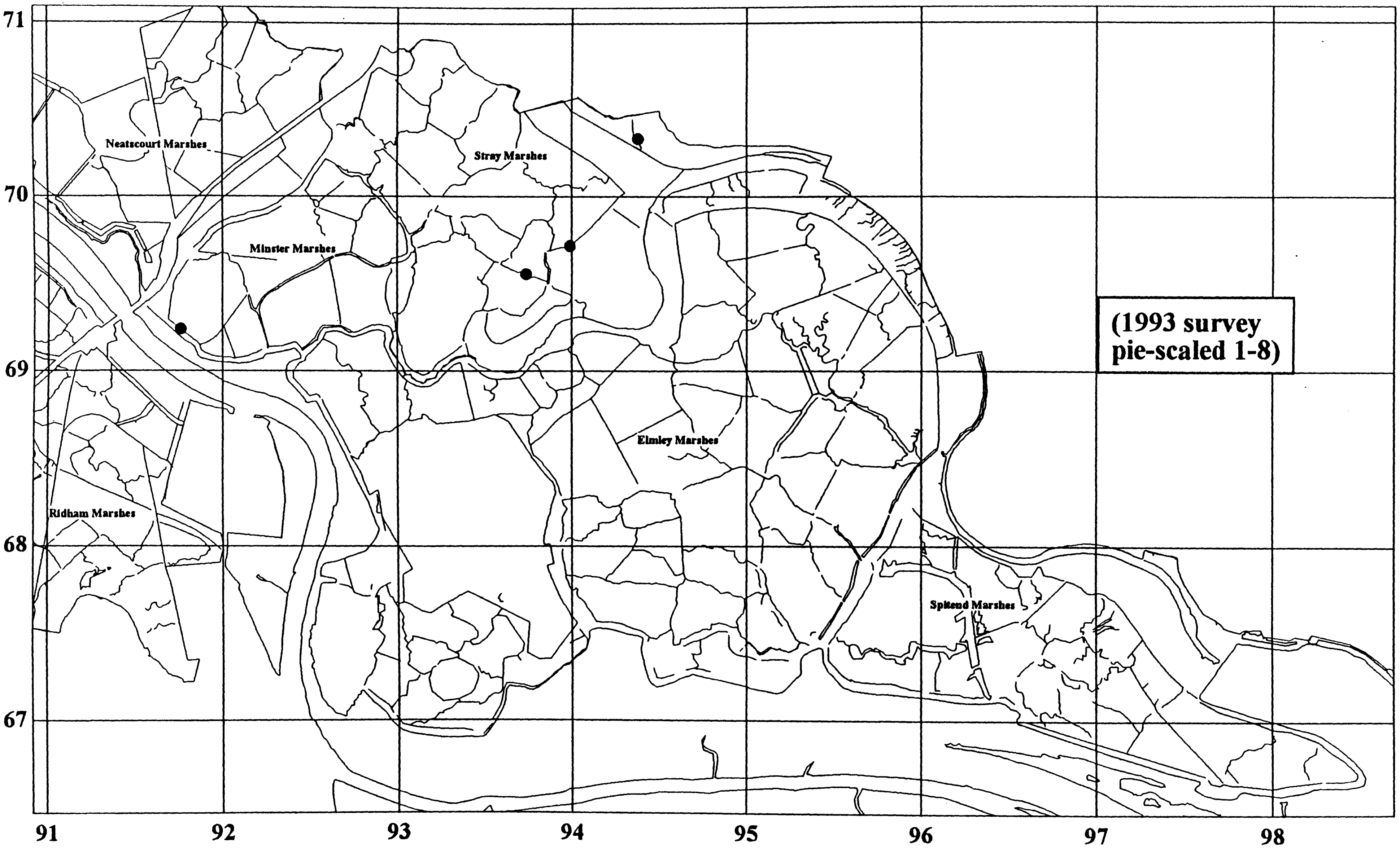
Sparganium erectum



Typha angustifolia

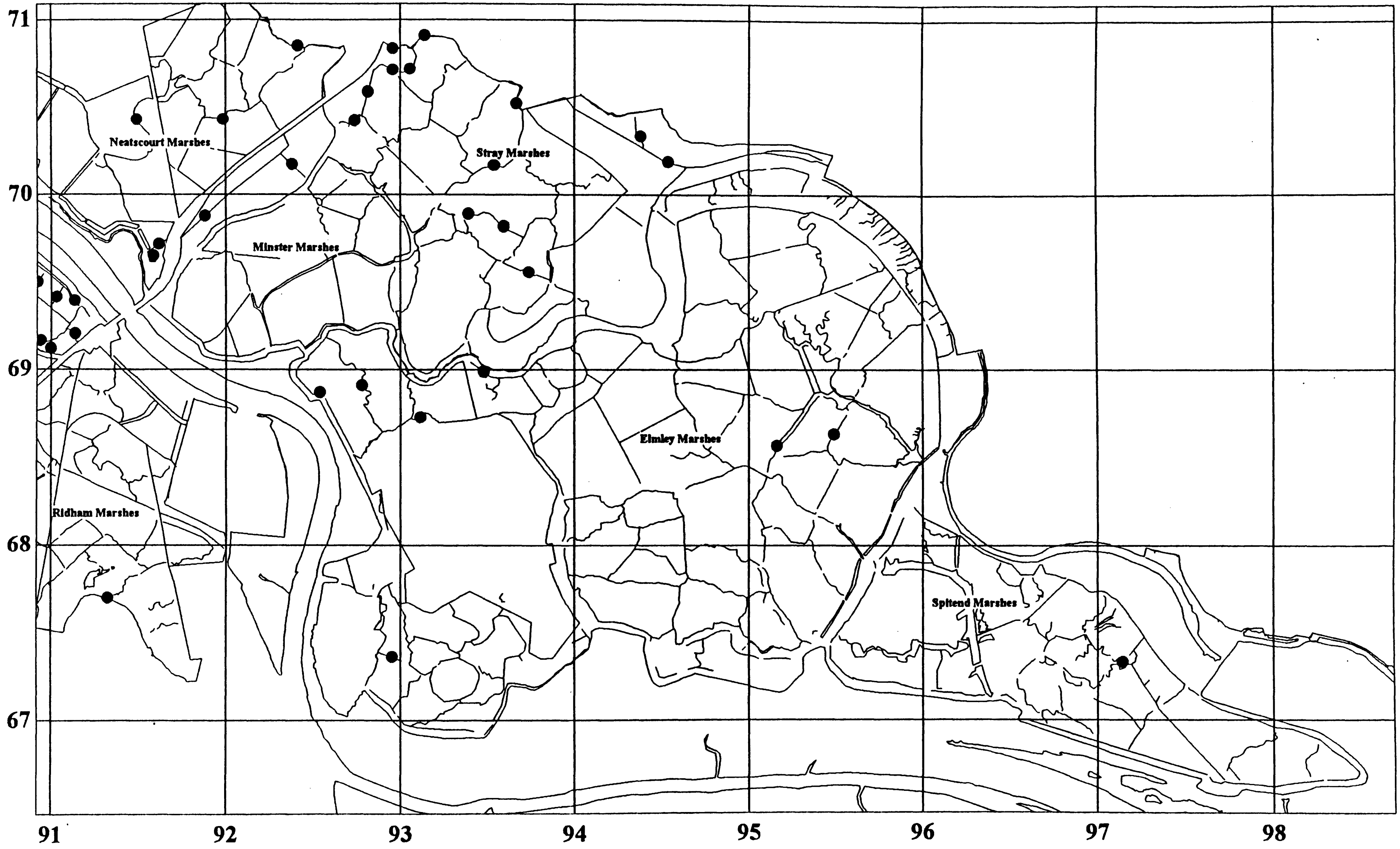


Veronica catenata

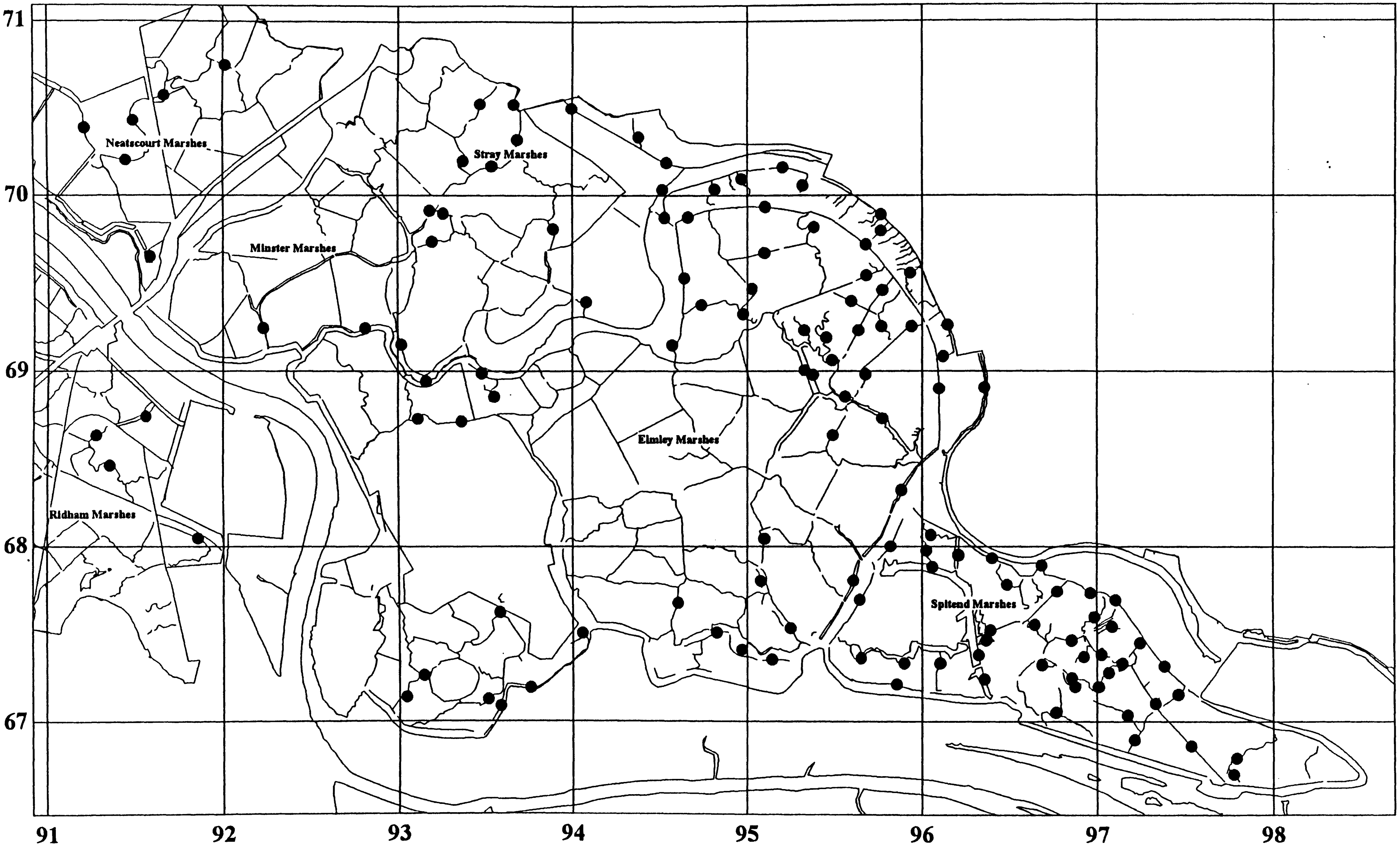


(1993 survey pie-scaled 1-8)

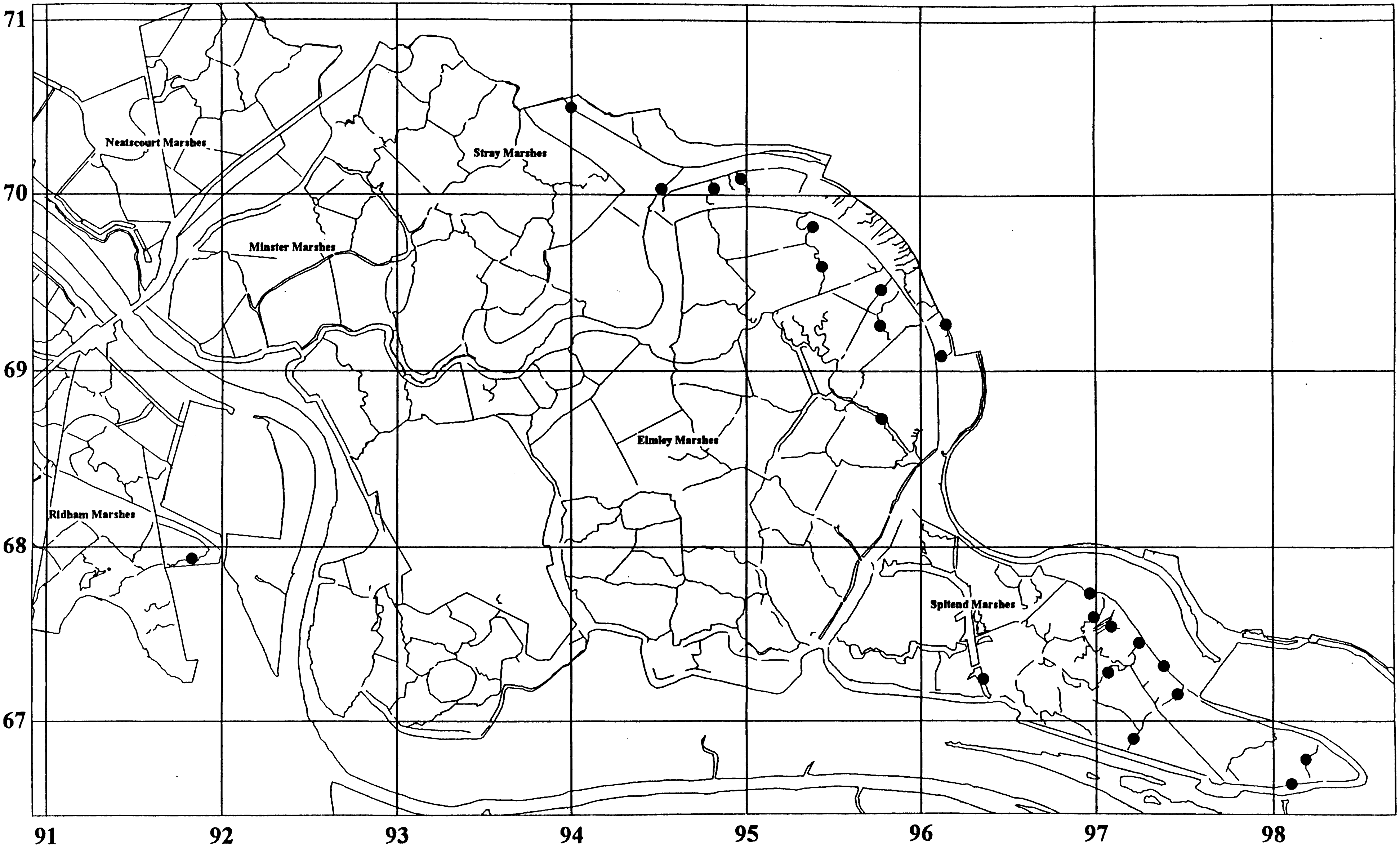
Carex divisa



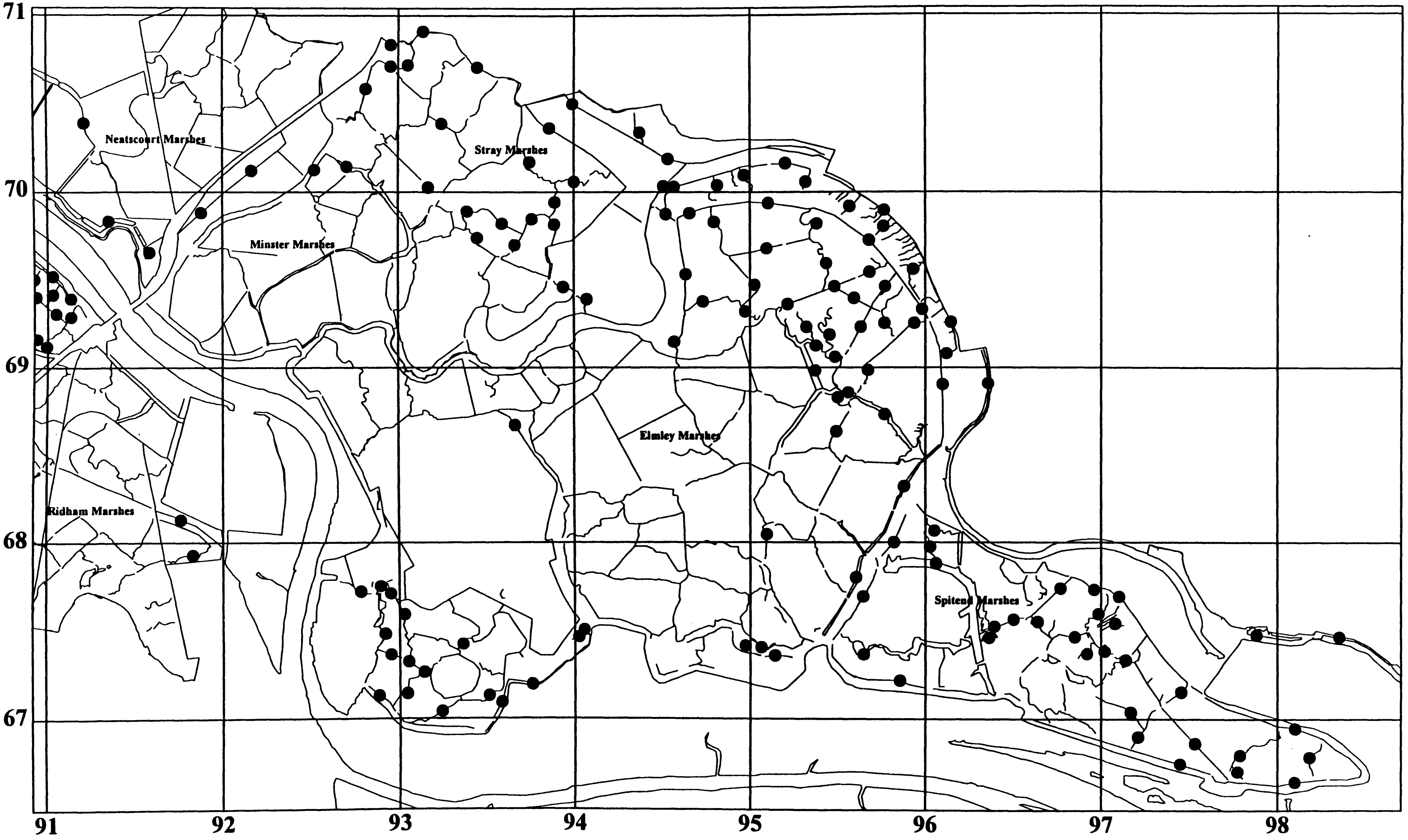
Chenopodium chenopodioides



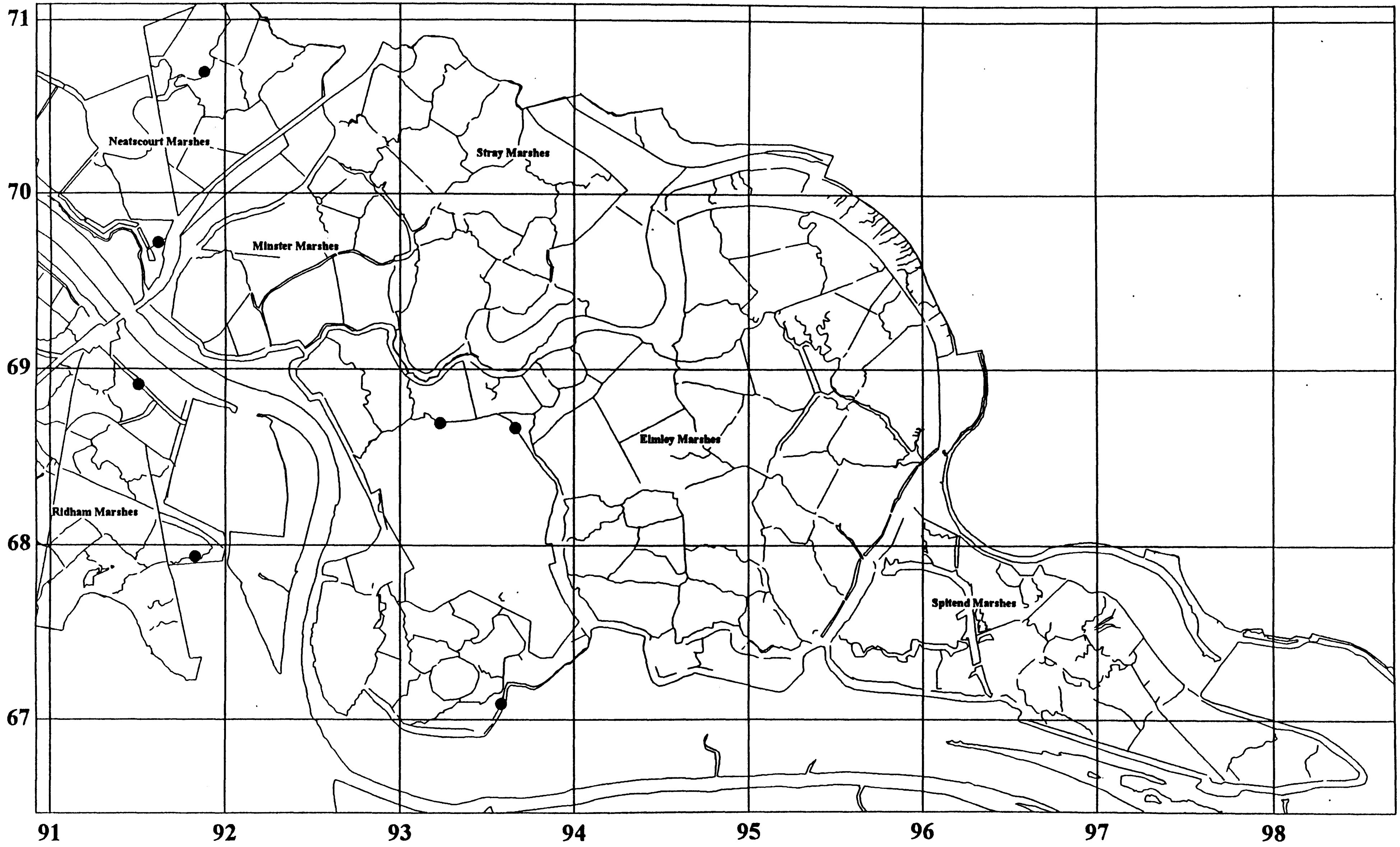
Glaux maritima



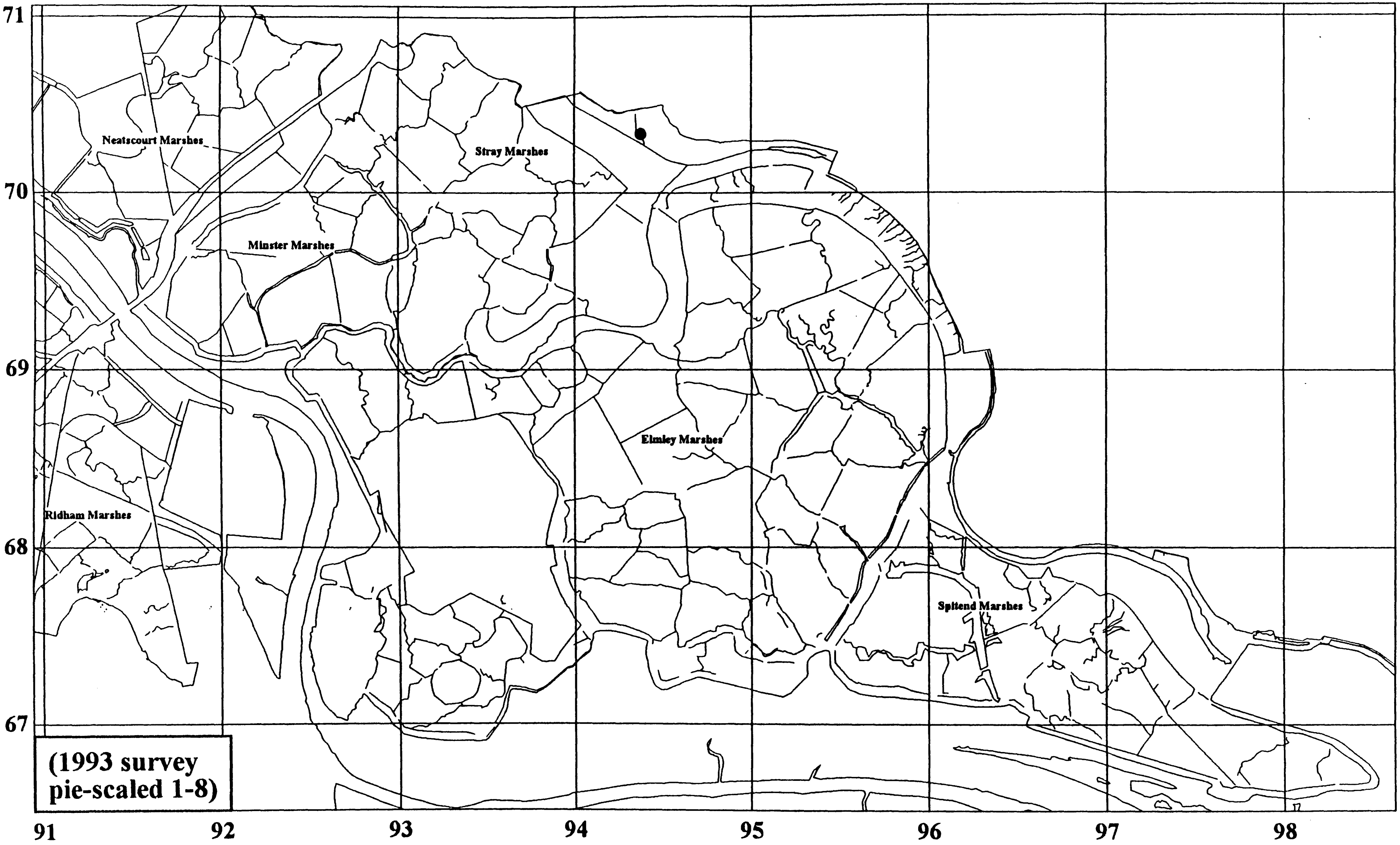
Juncus gerardii



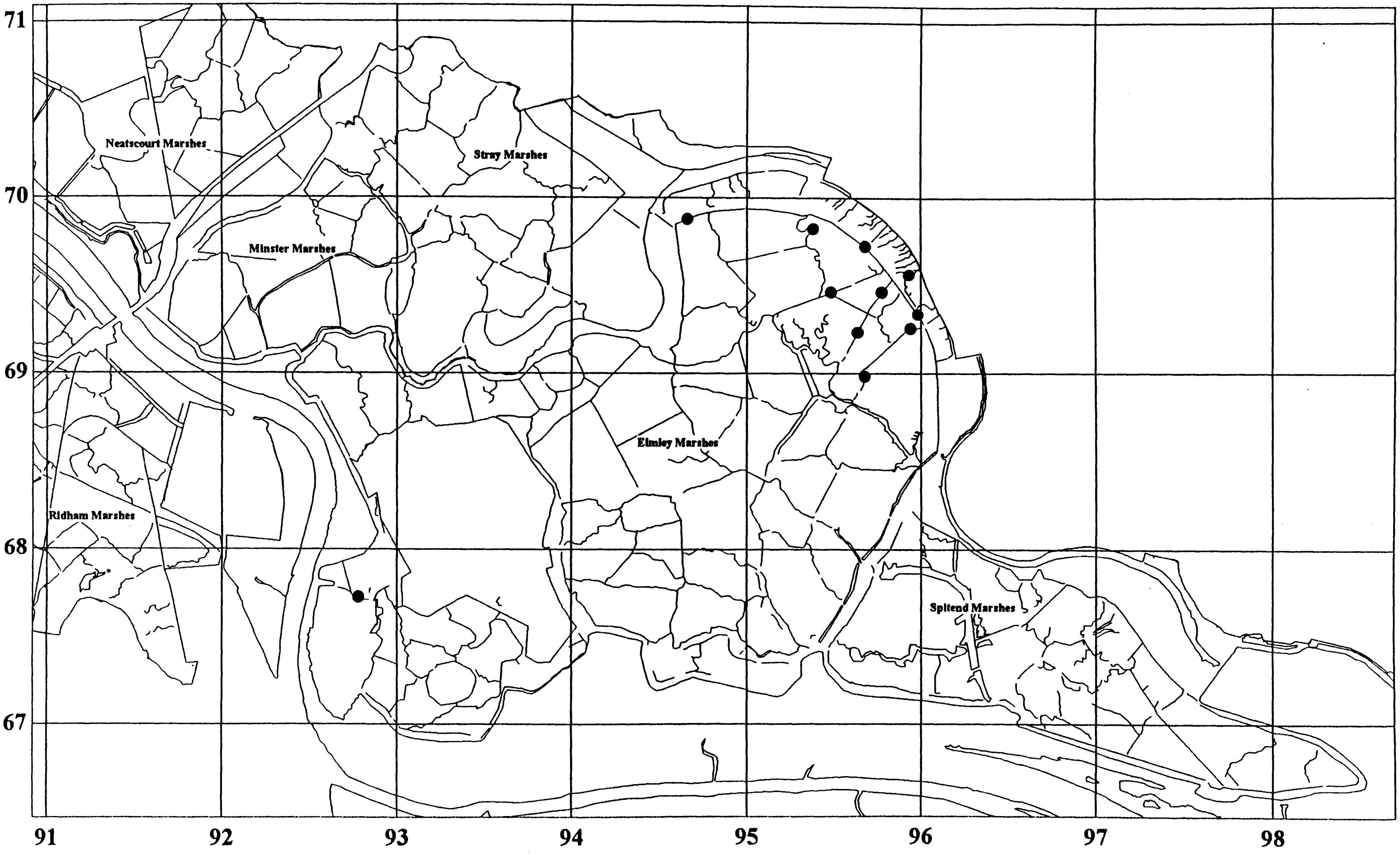
Juncus maritima



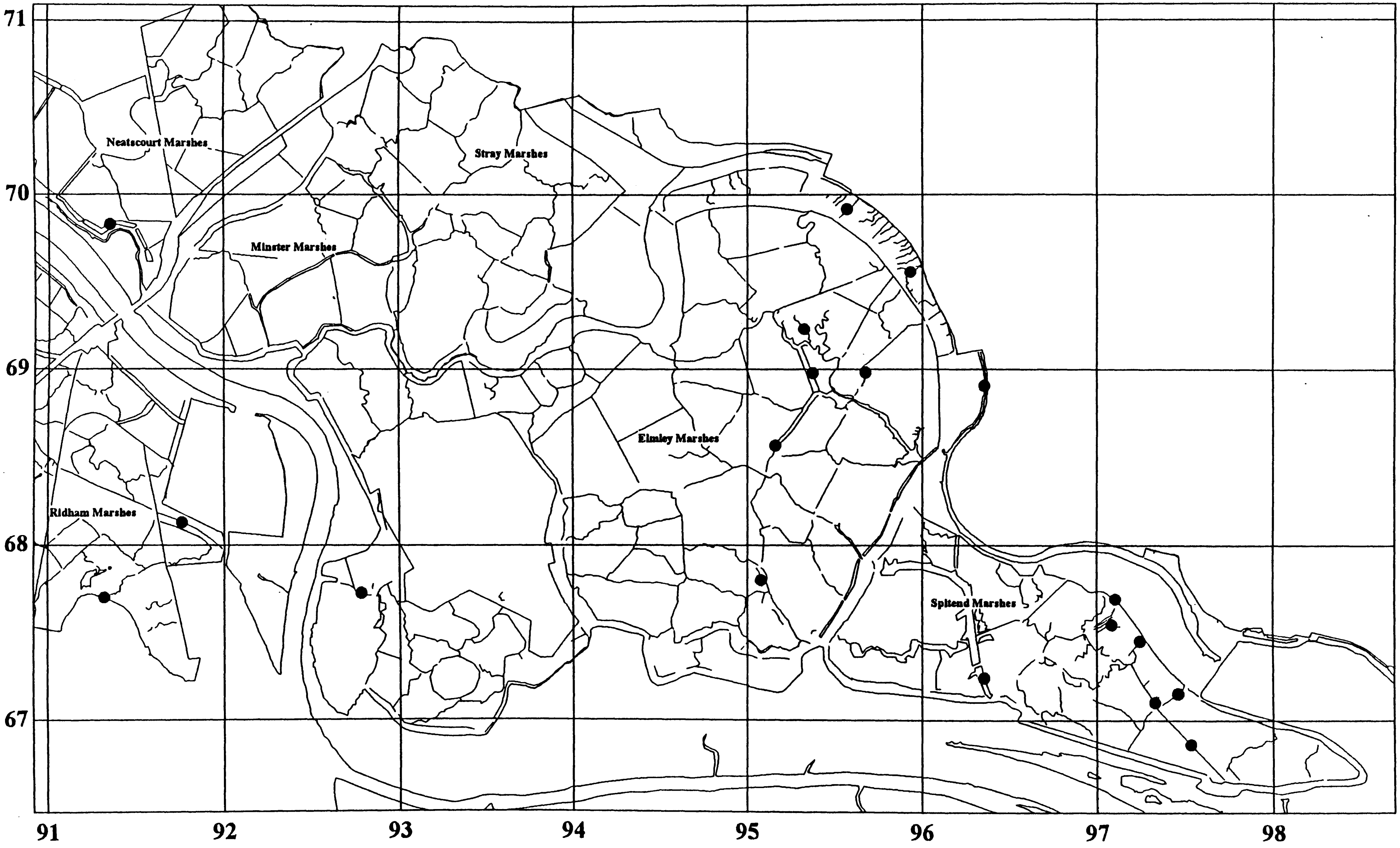
Oenanthe lachenalii



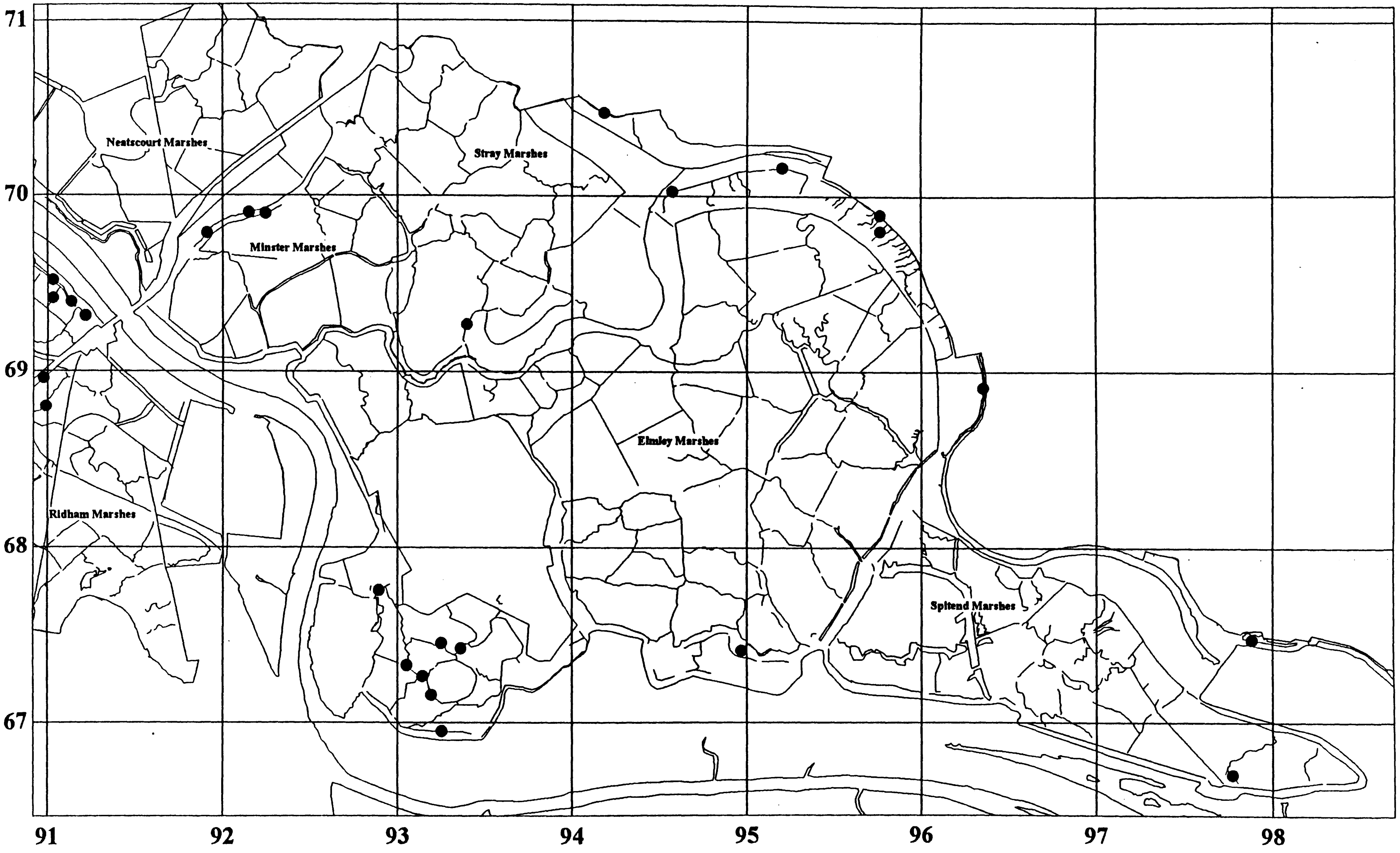
Polypogon monspeliensis



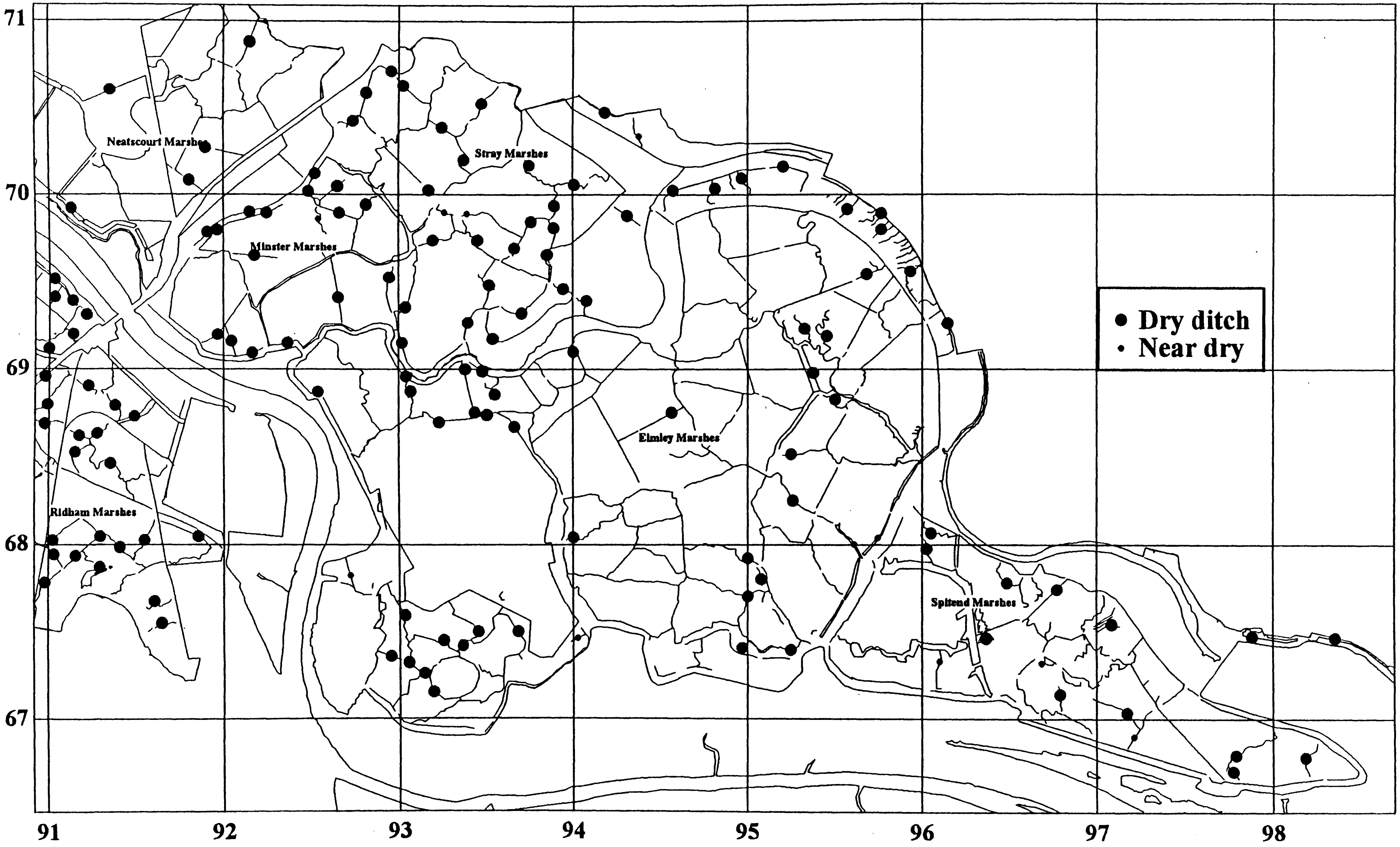
Spergularia marina



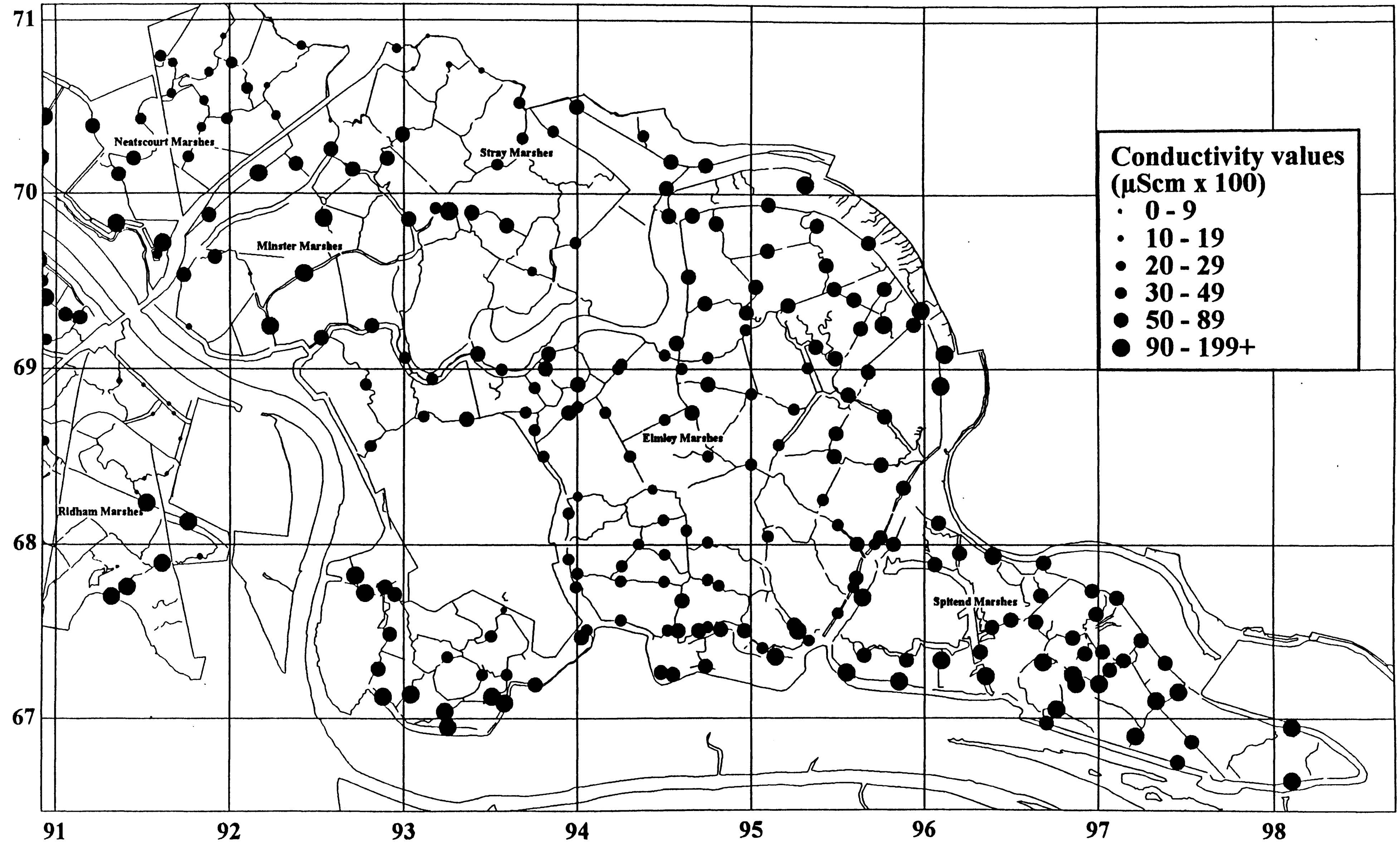
Ditch choked



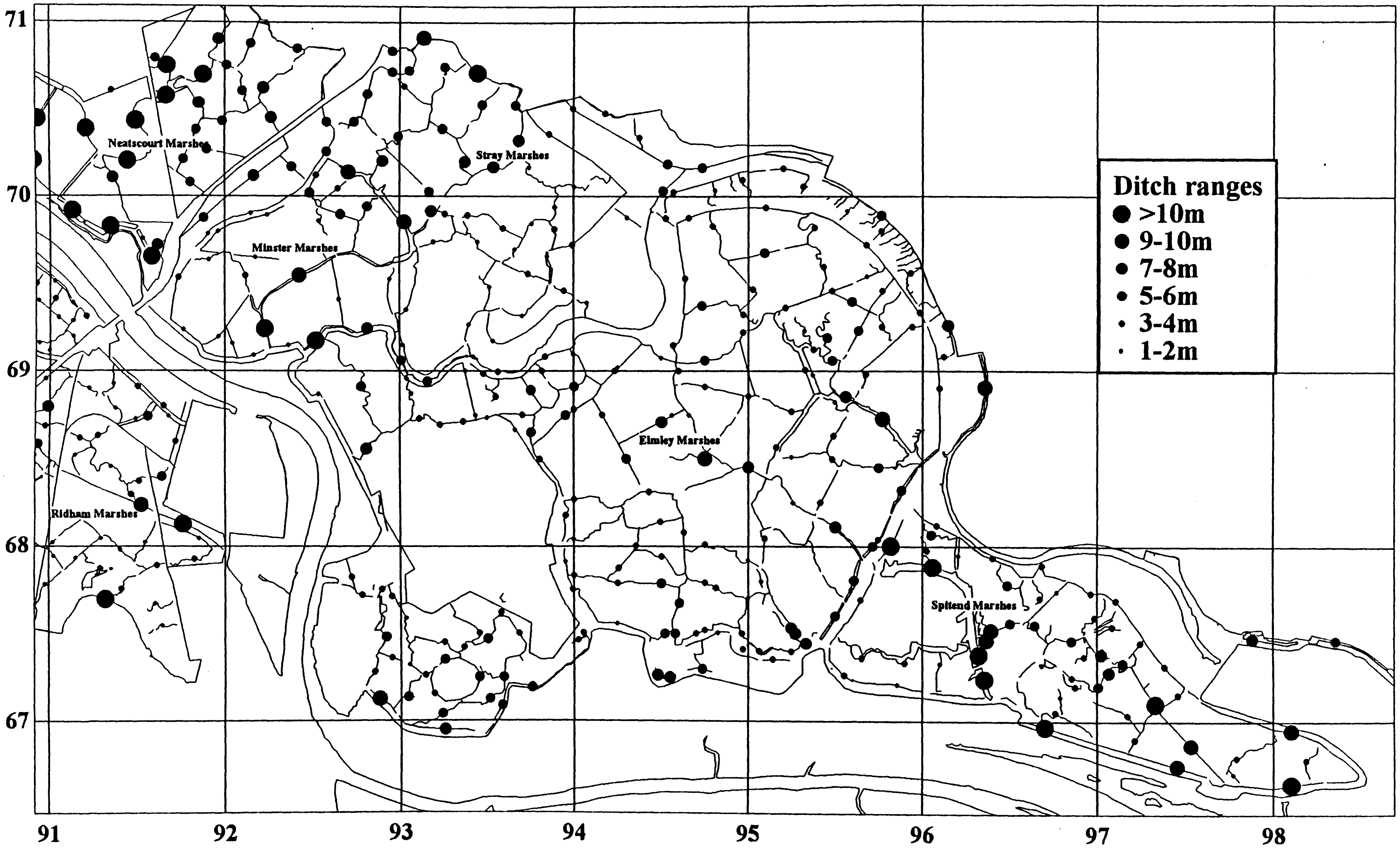
Ditch dry


71
70
69
68
67
Neatscourt Marshes
Stray Marshes
Minster Marshes
Elmley Marshes
Ridham Marshes
Spitend Marshes
● Dry ditch
• Near dry
91
92
93
94
95
96
97
98

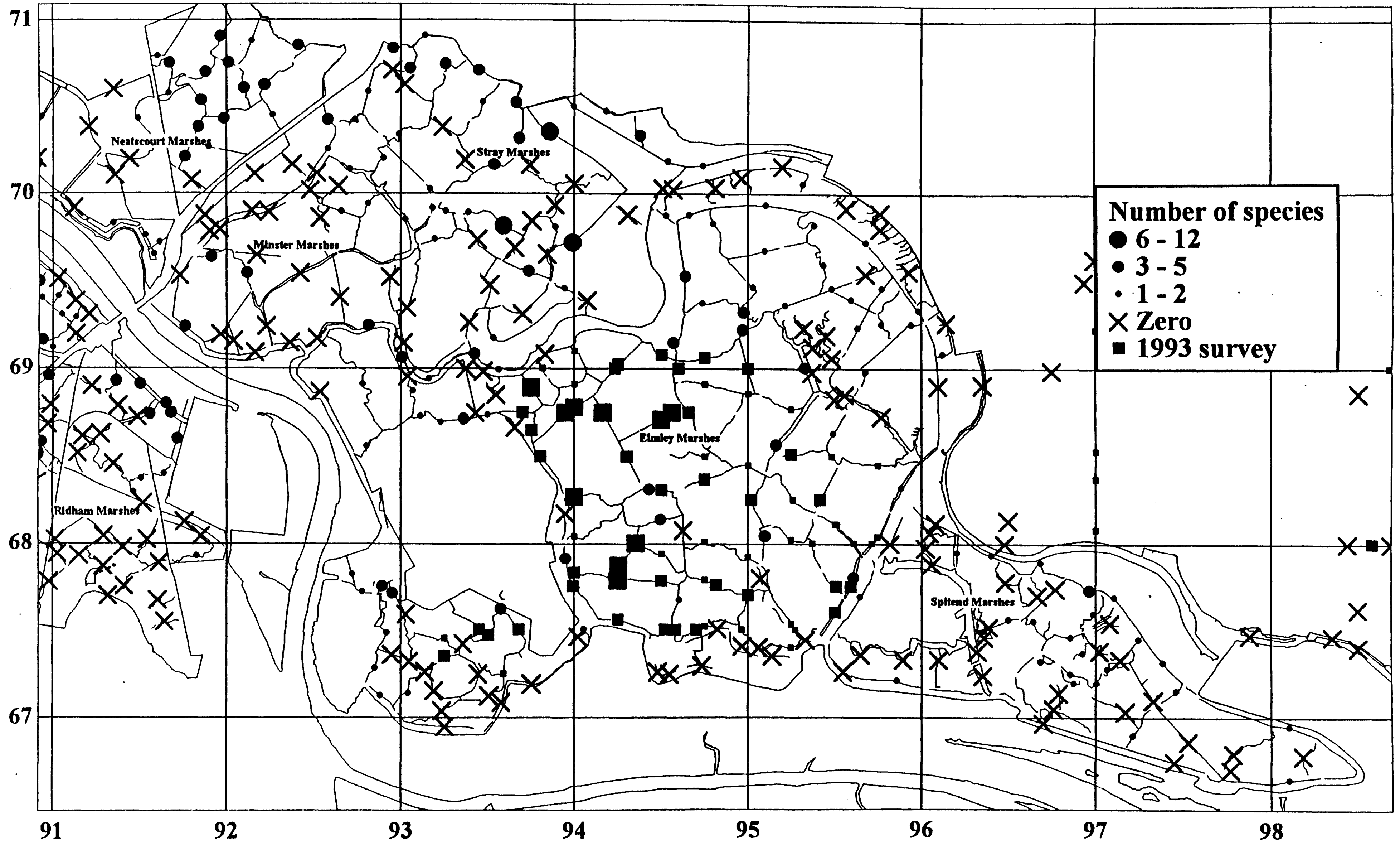
Conductivity values



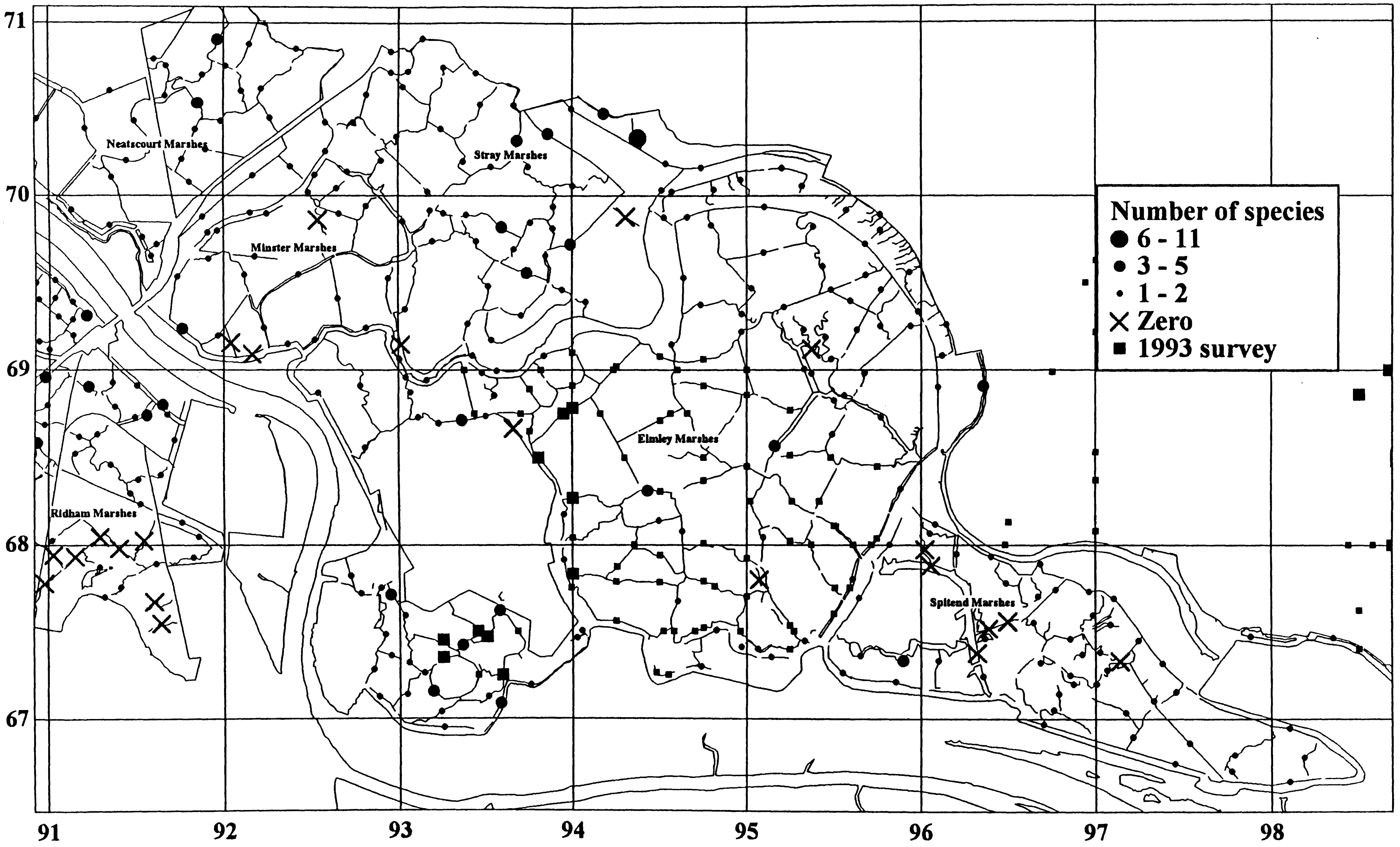
Ditch widths



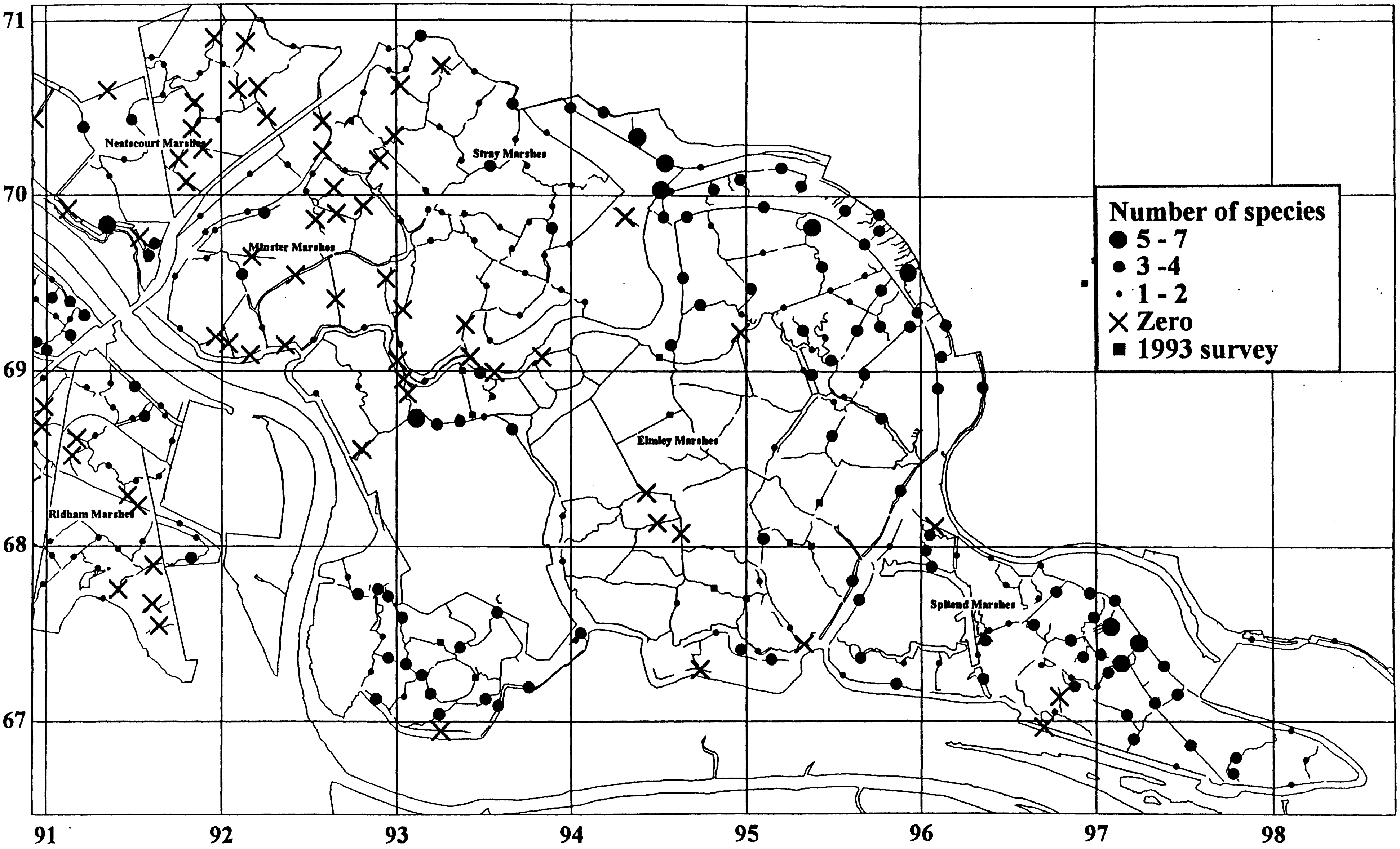
Number of aquatic species



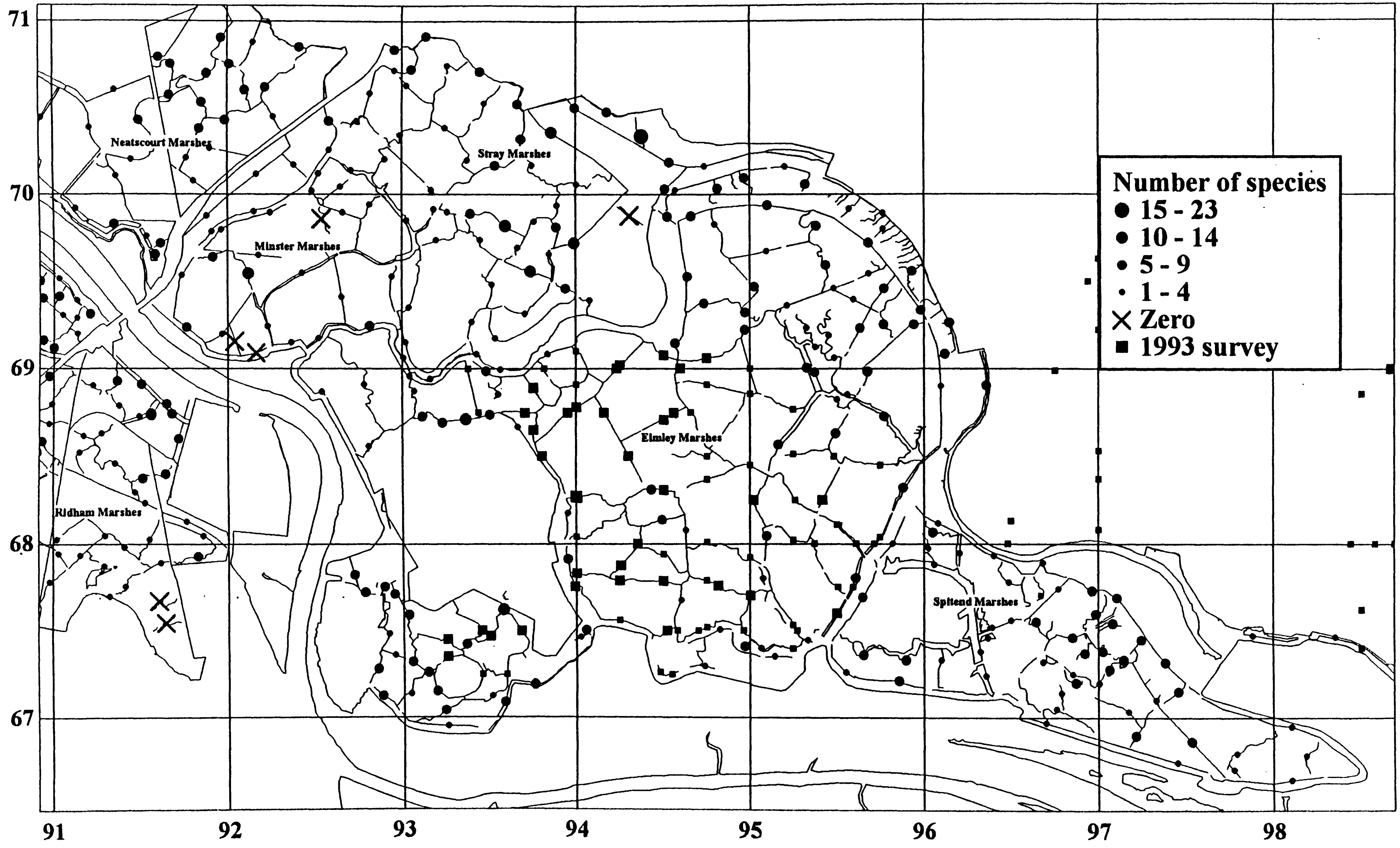
Number of emergent species



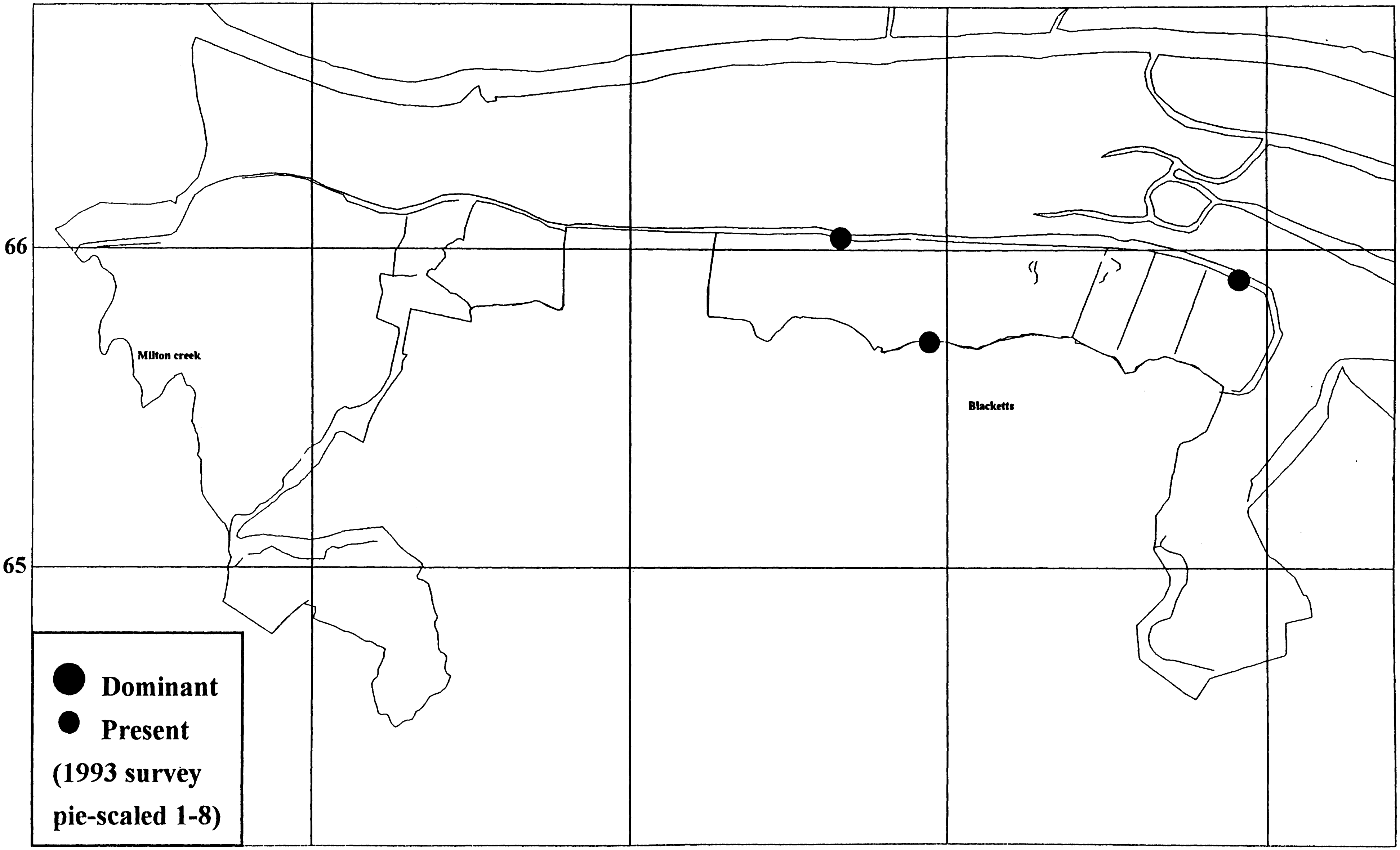
Number of bank species



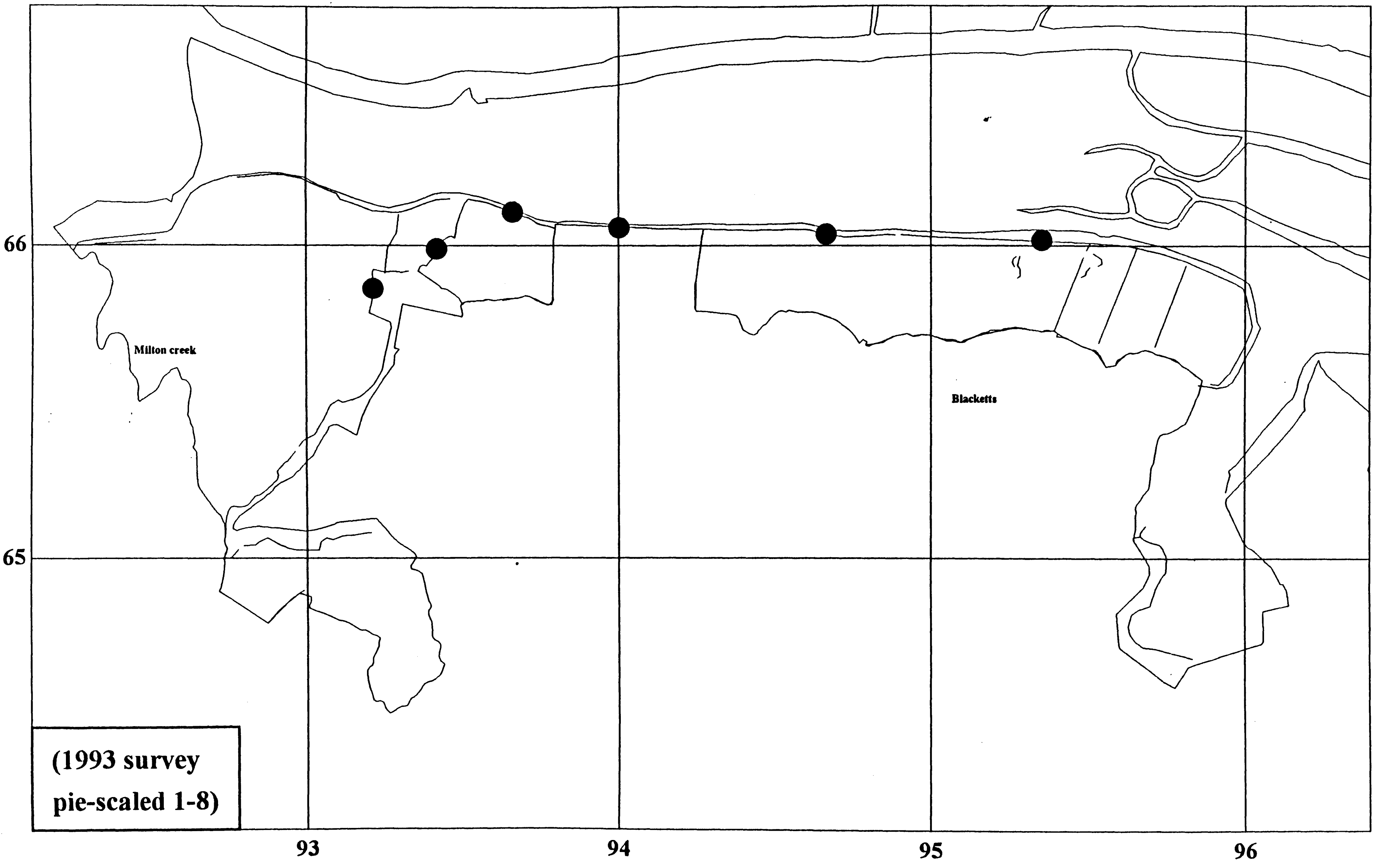
Total number of species



Ceratophyllum submersum

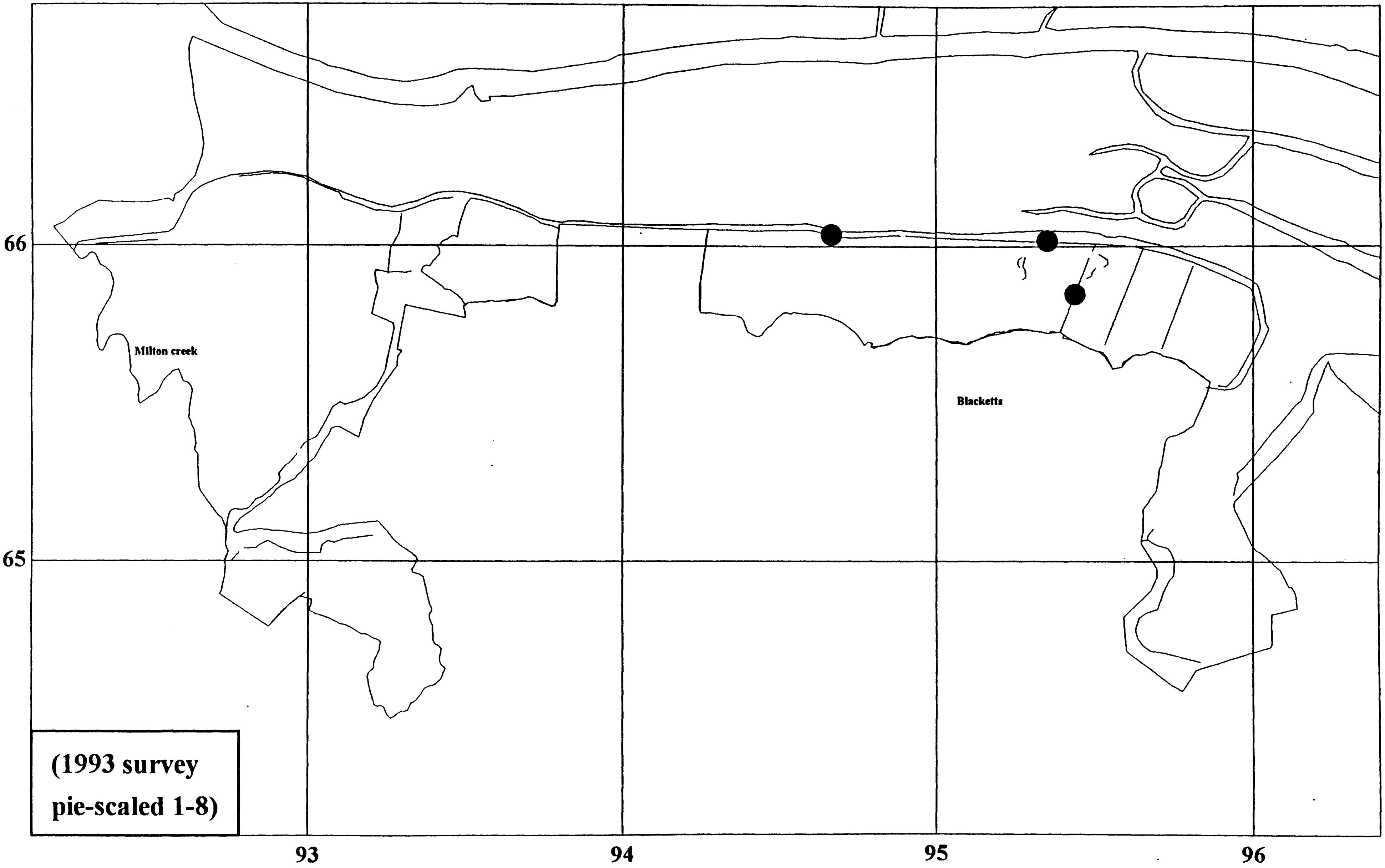


Hydrocharis morsus-ranae



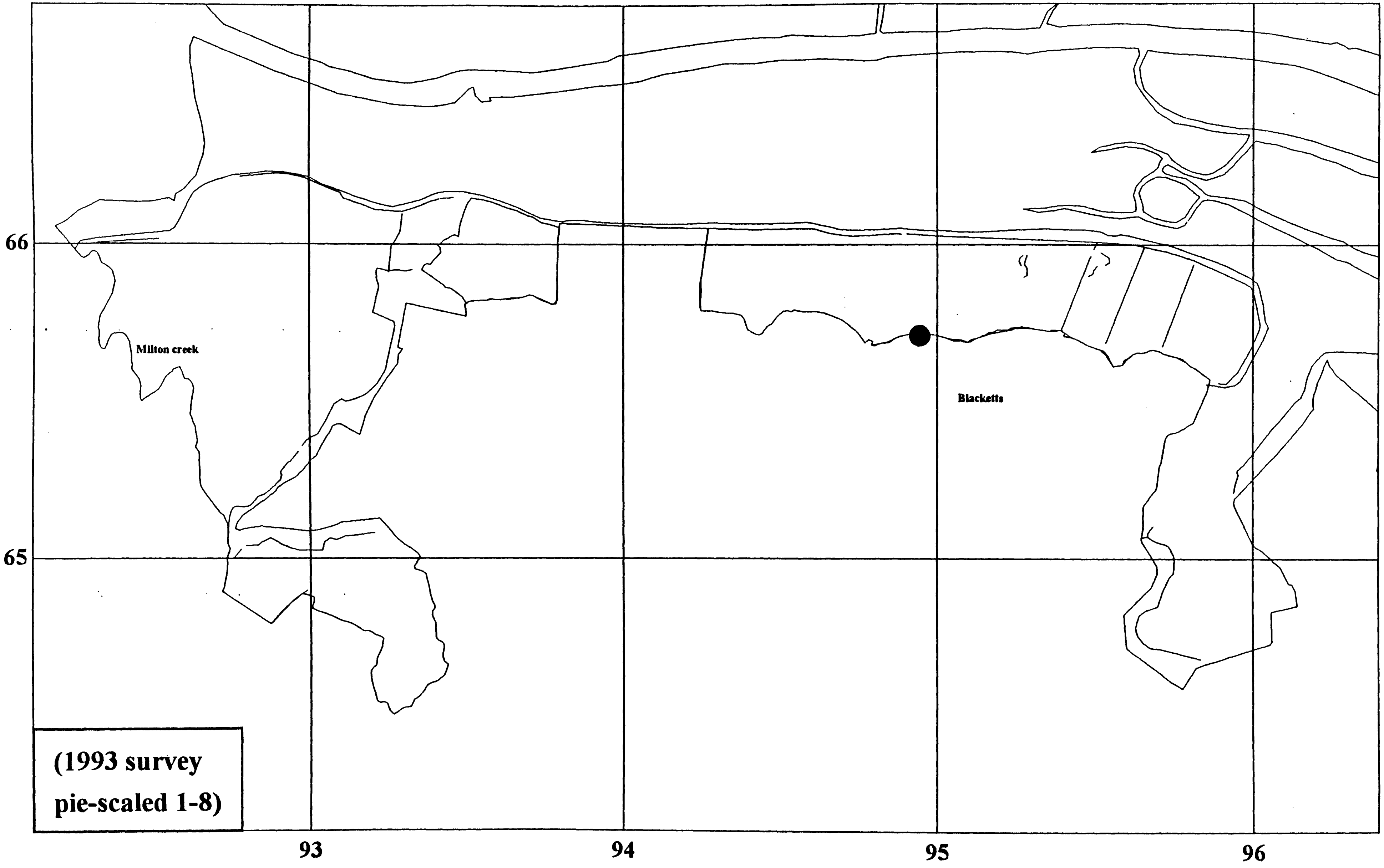
(1993 survey
pie-scaled 1-8)

Myriophyllum spicatum



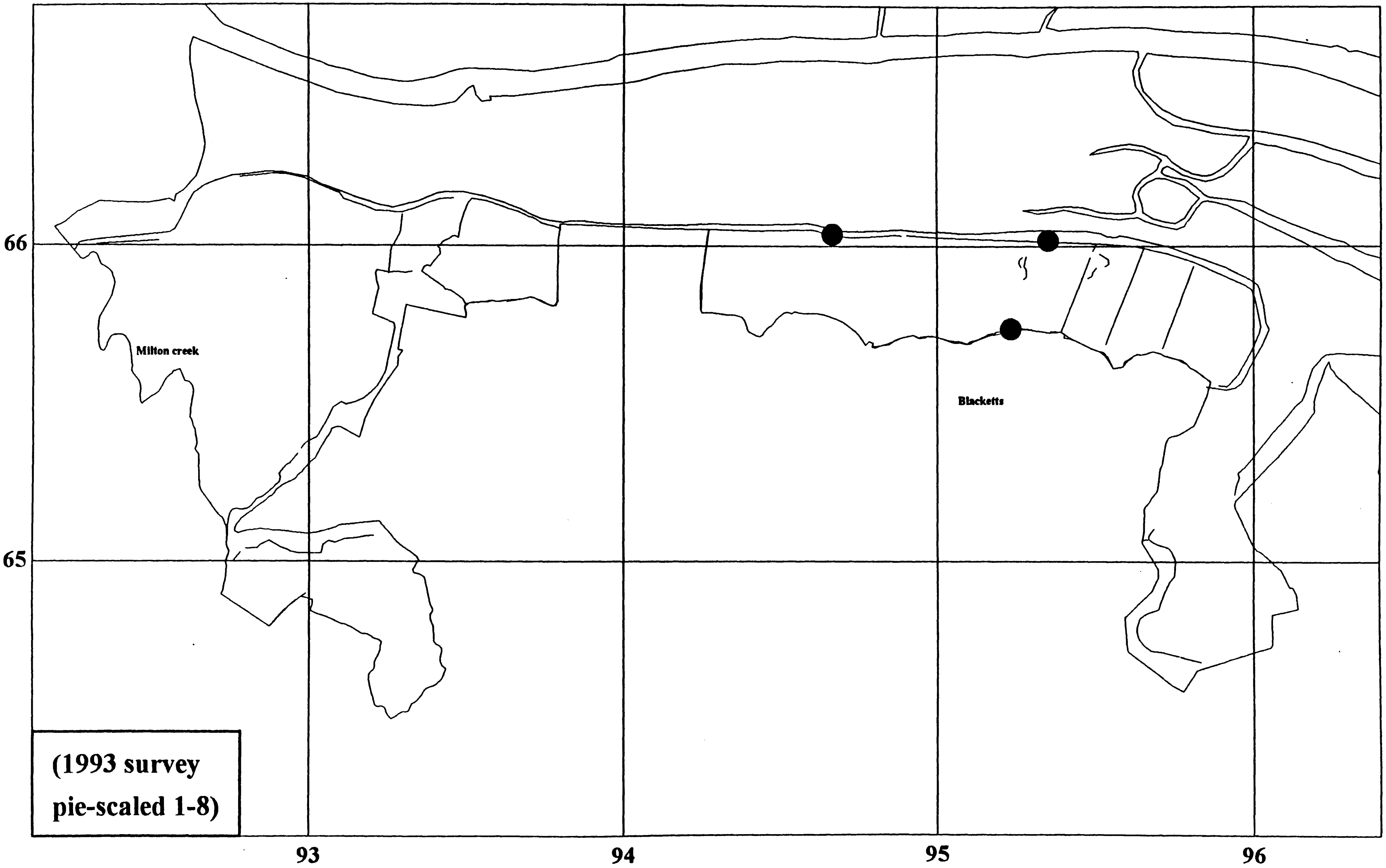
(1993 survey
pie-scaled 1-8)

Potamogeton crispus

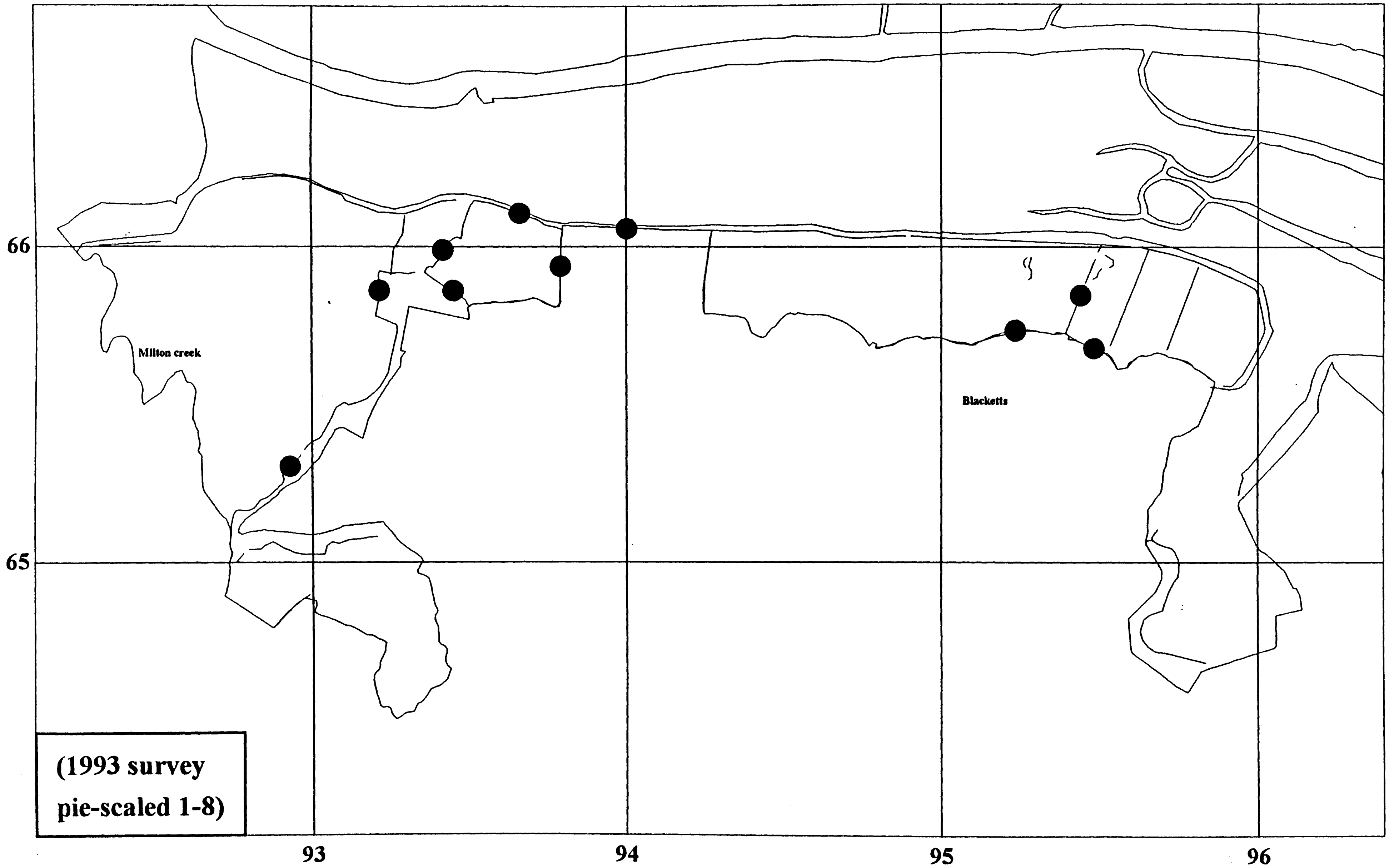


(1993 survey pie-scaled 1-8)

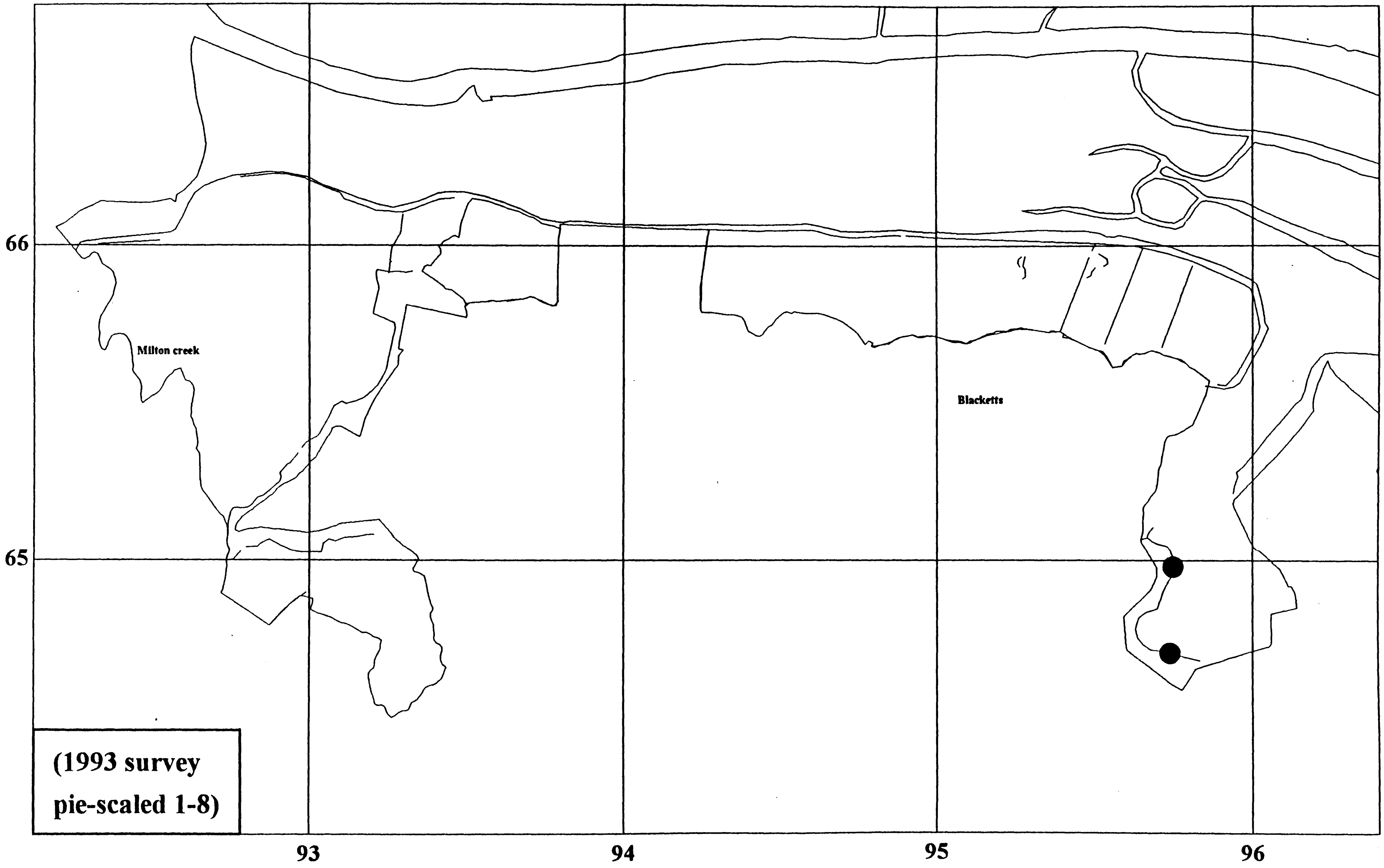
Potamogeton pectinatus



Berula erecta

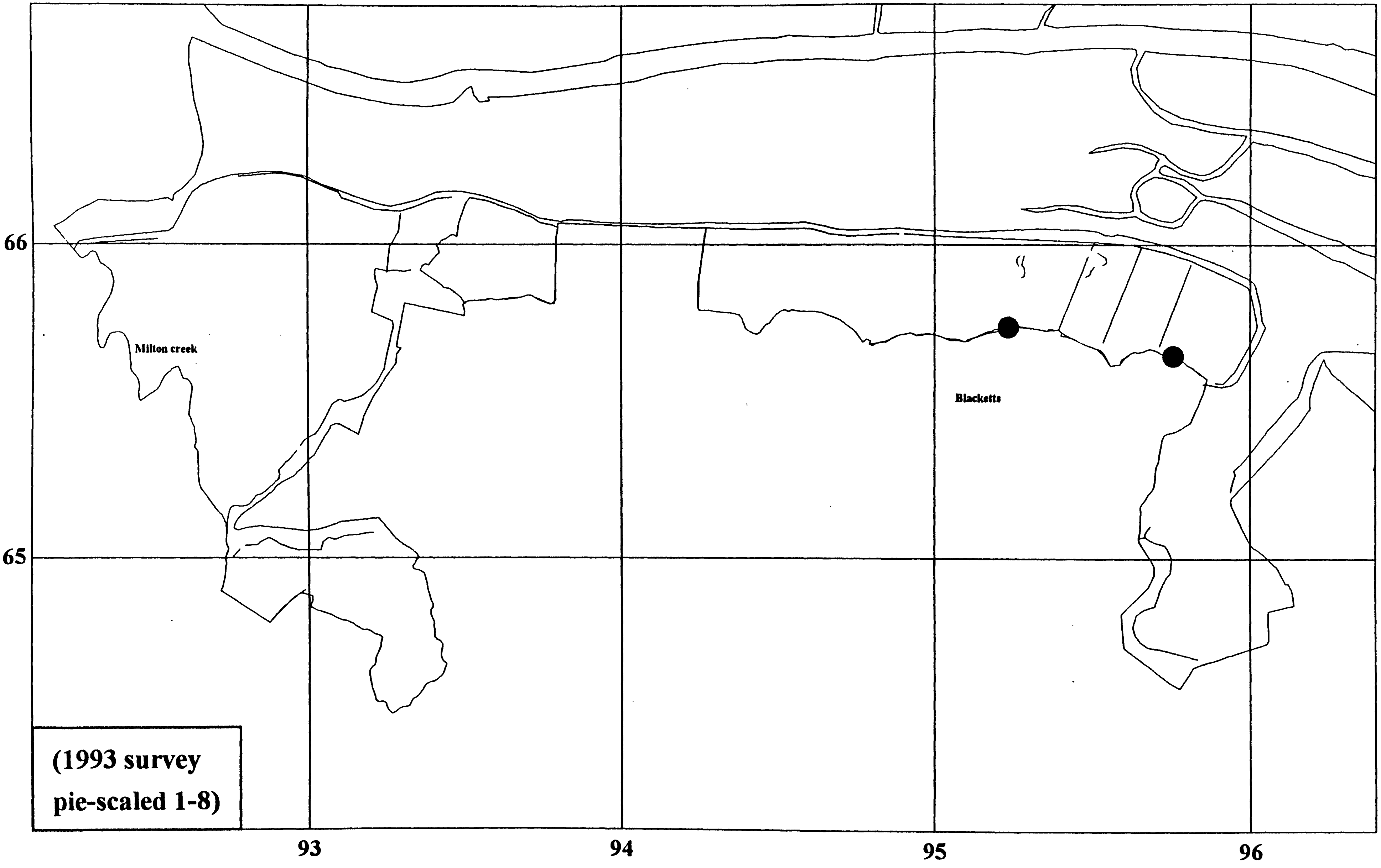


Glyceria maxima



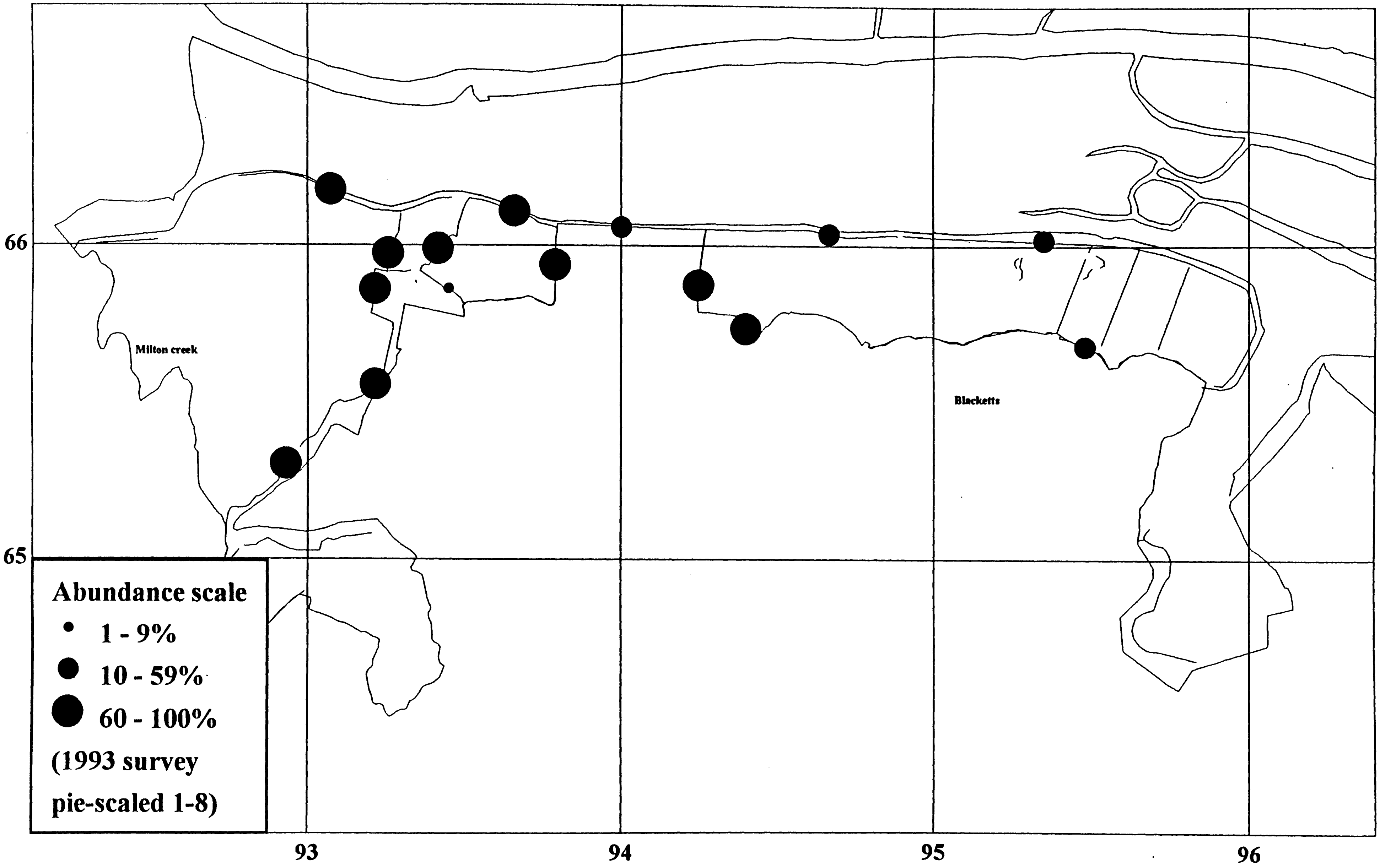
(1993 survey
pie-scaled 1-8)

Oenanthe fistulosa

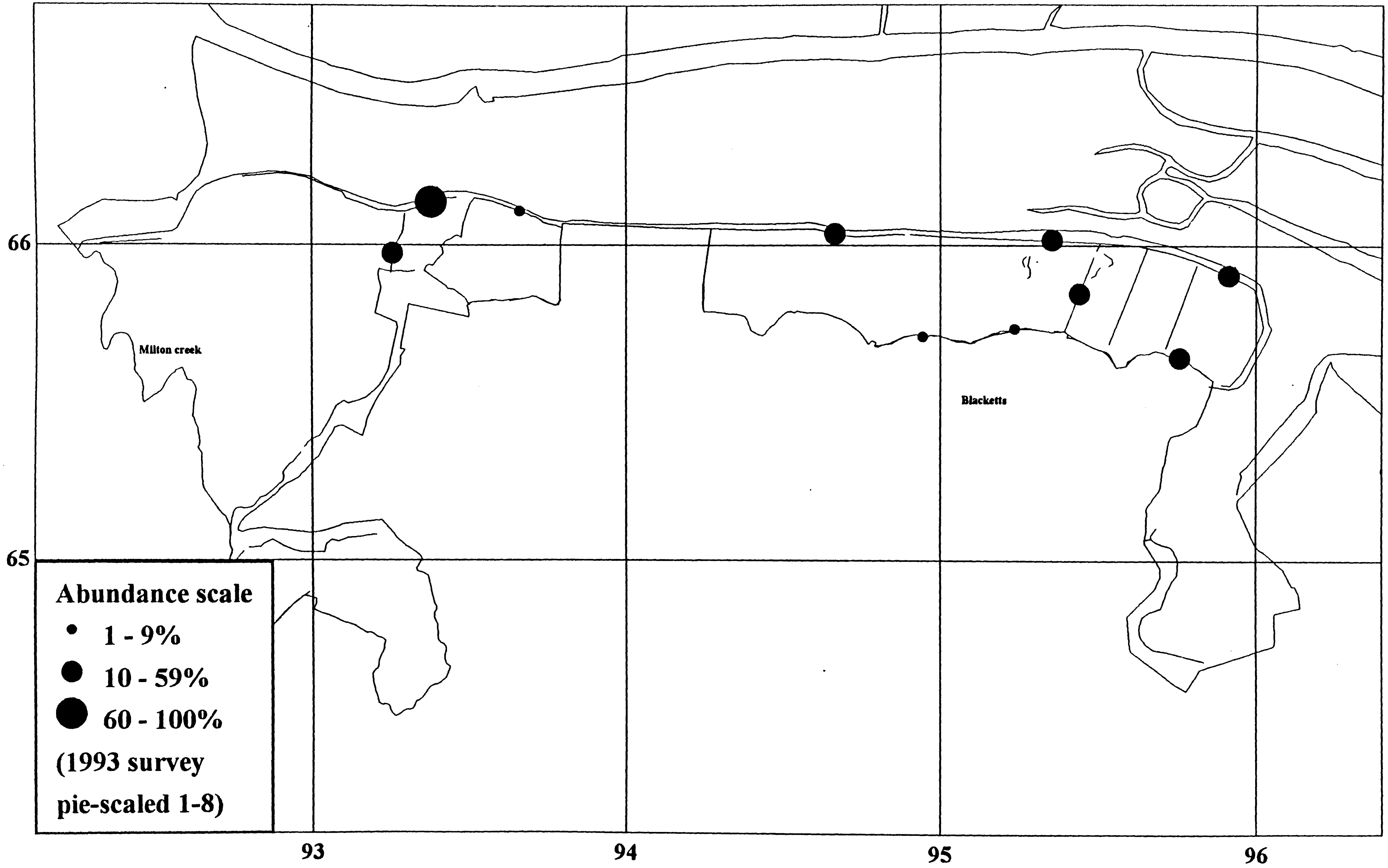


(1993 survey
pie-scaled 1-8)

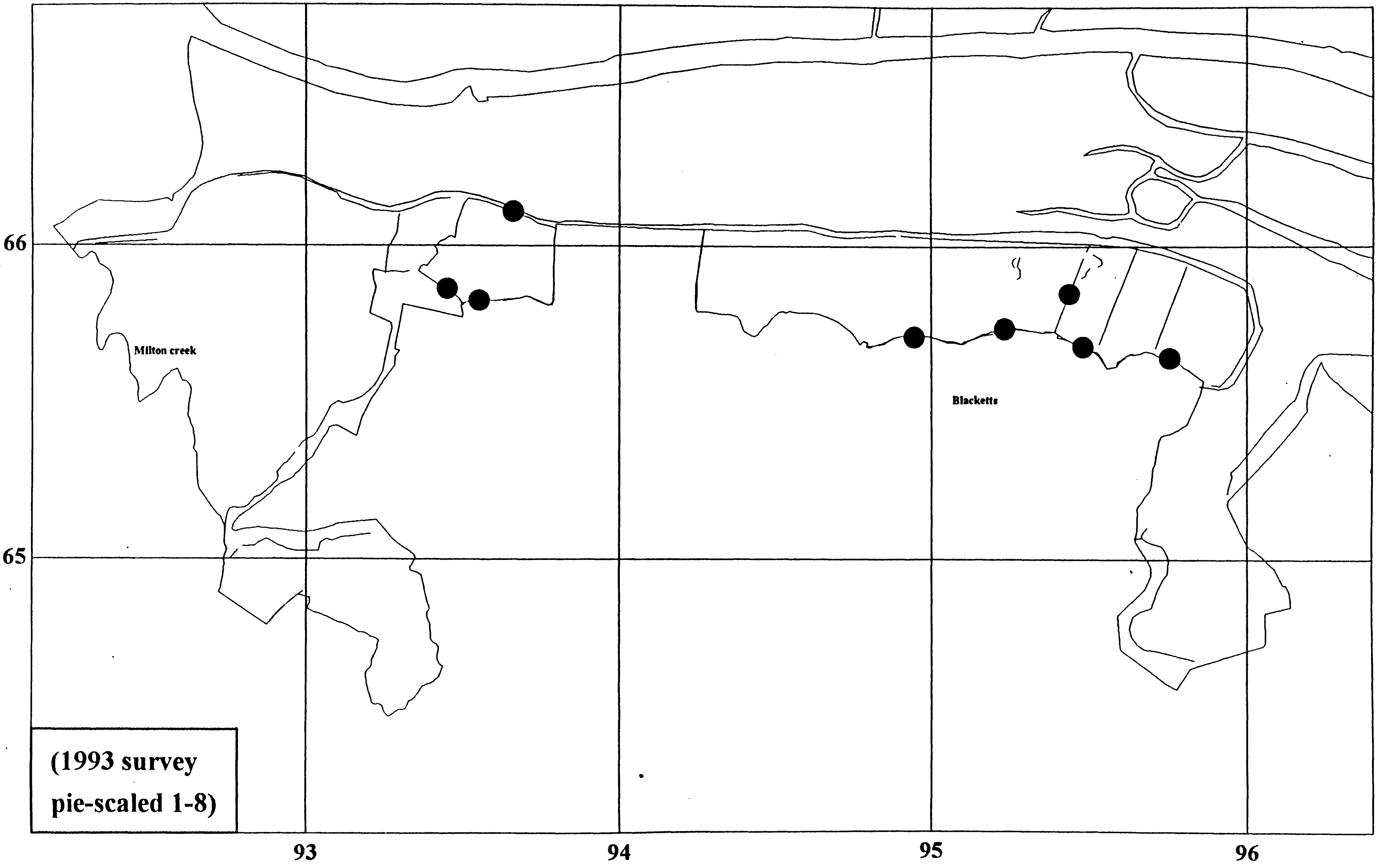
Phragmites australis



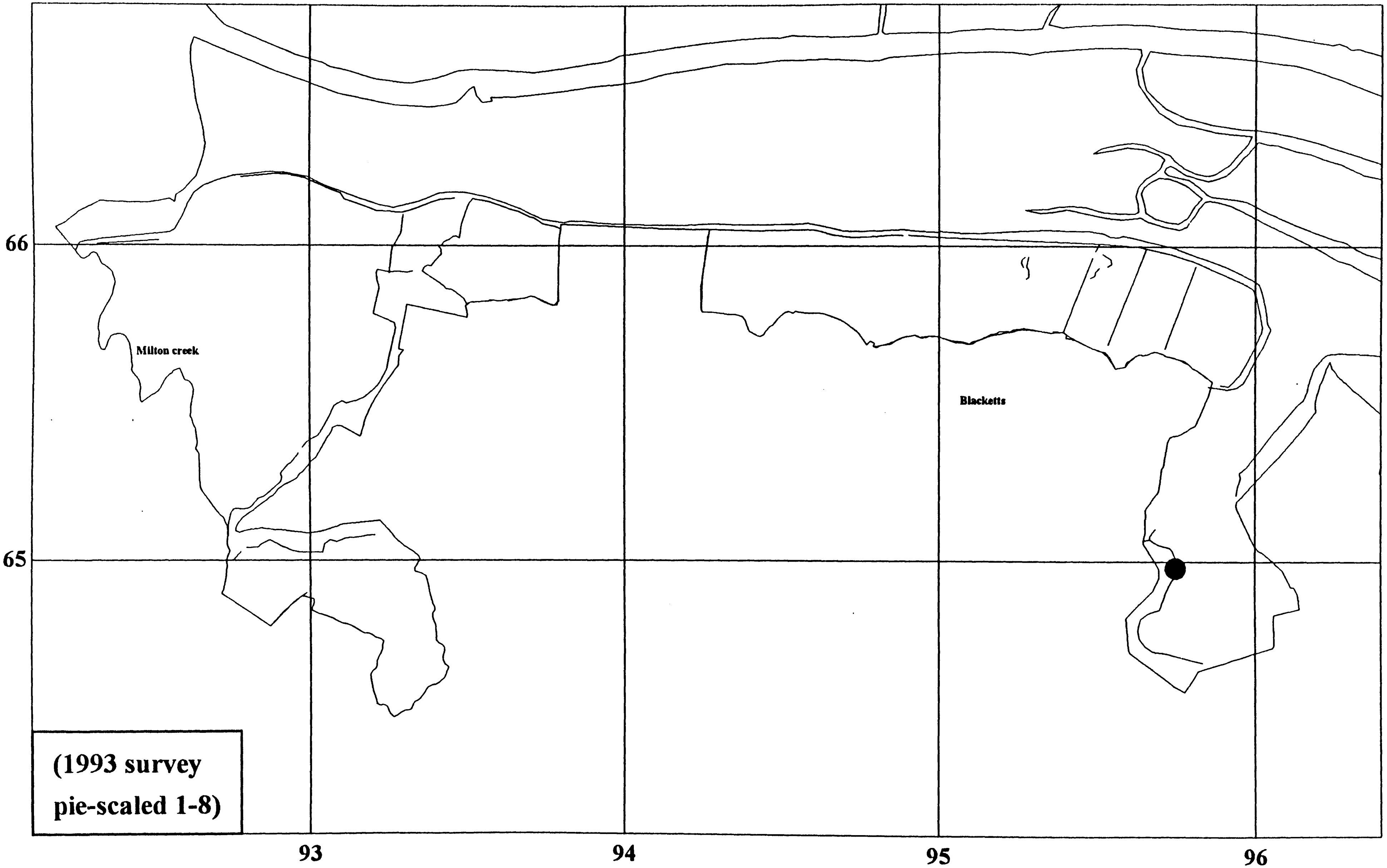
Scirpus maritimus



Sparganium erectum

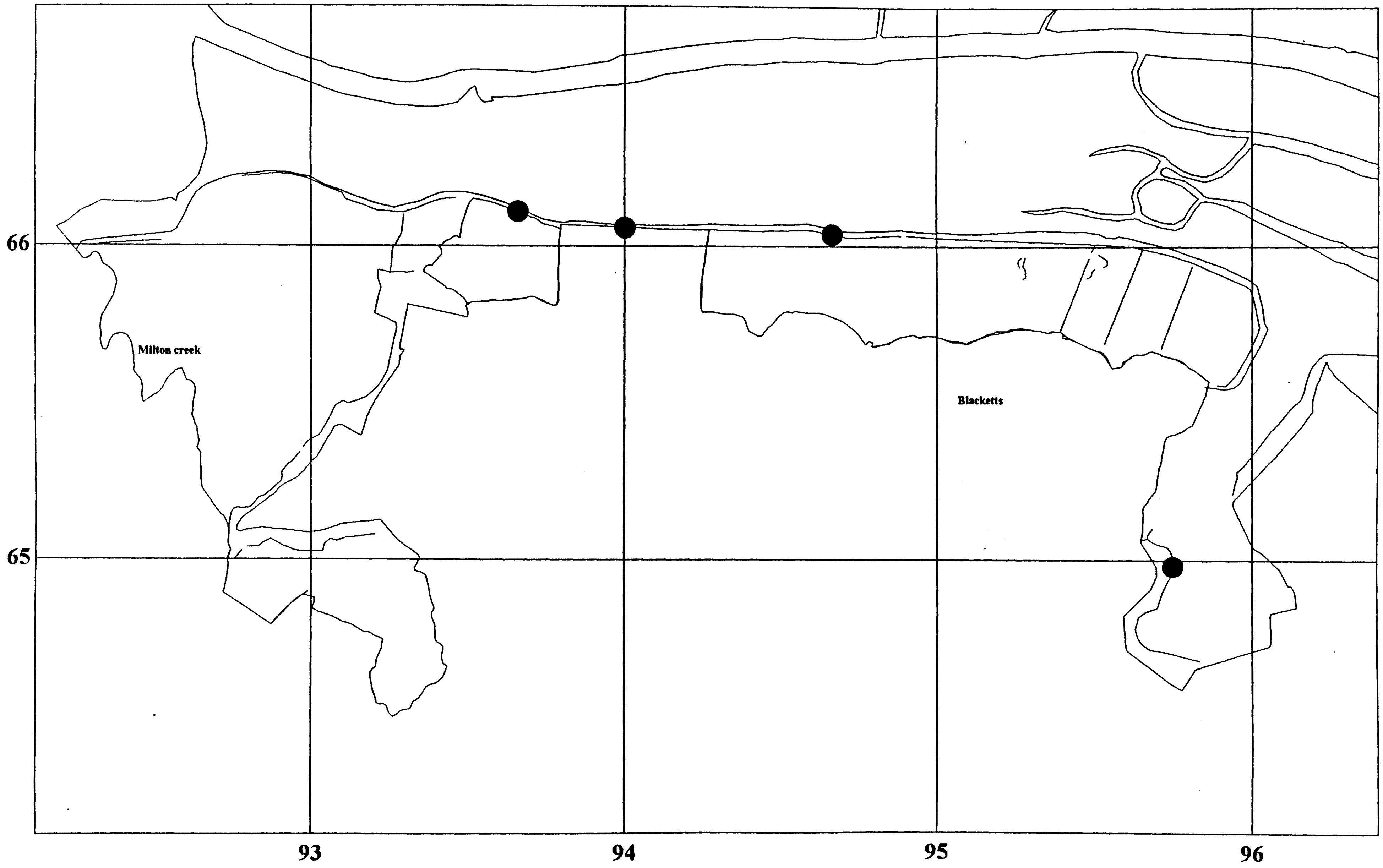


Veronica anagallis-aquatica

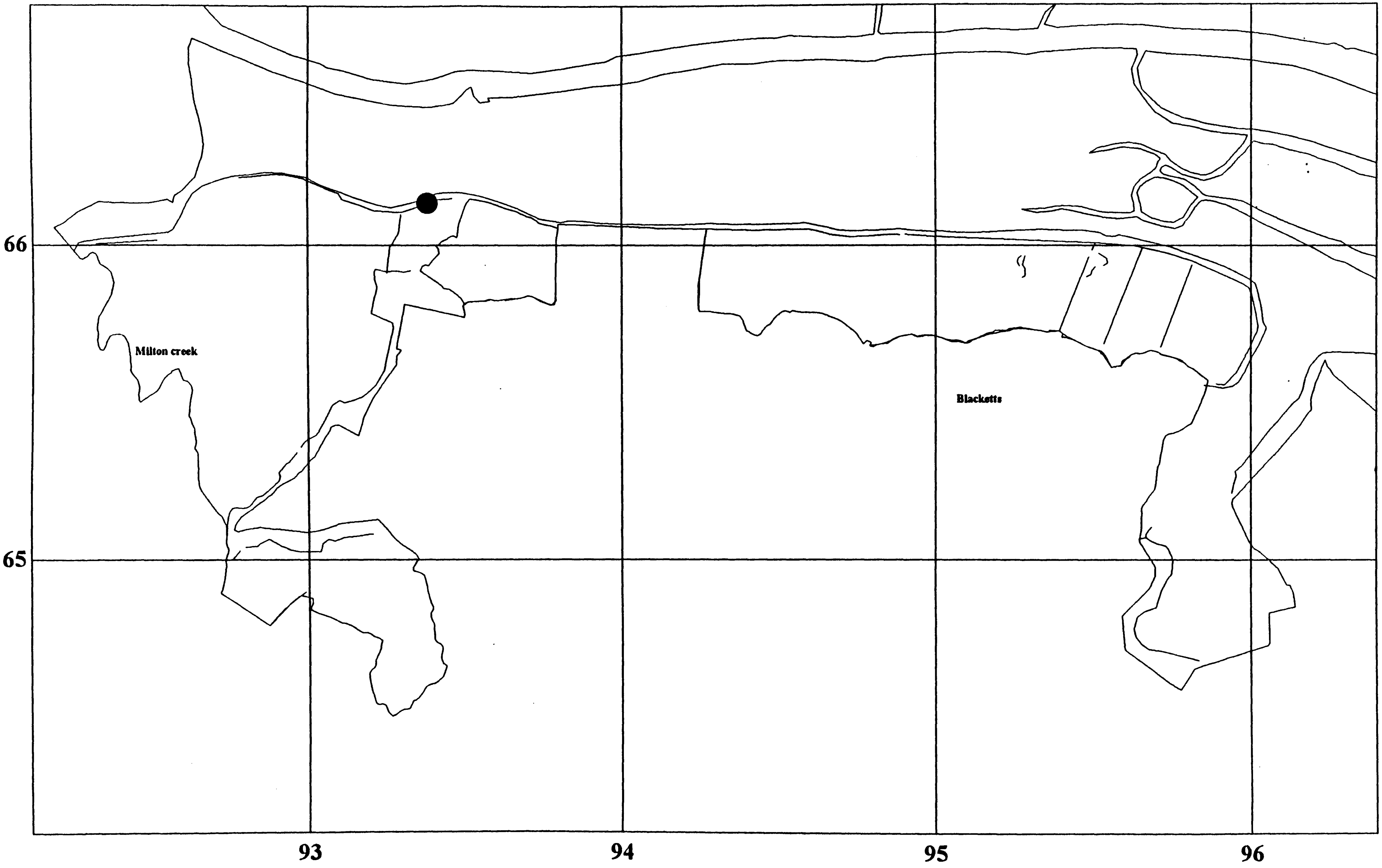


(1993 survey
pie-scaled 1-8)

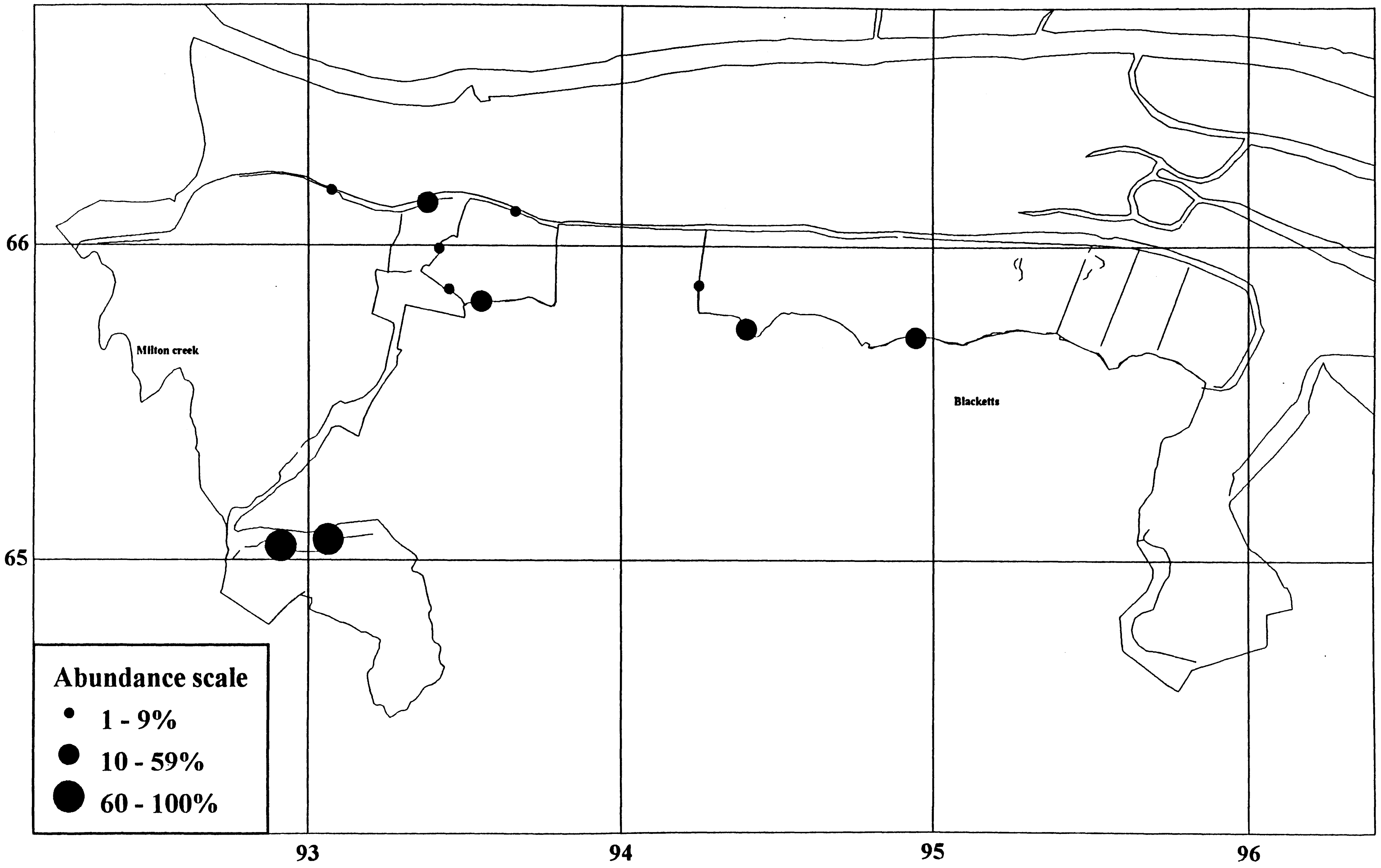
Carex divisa



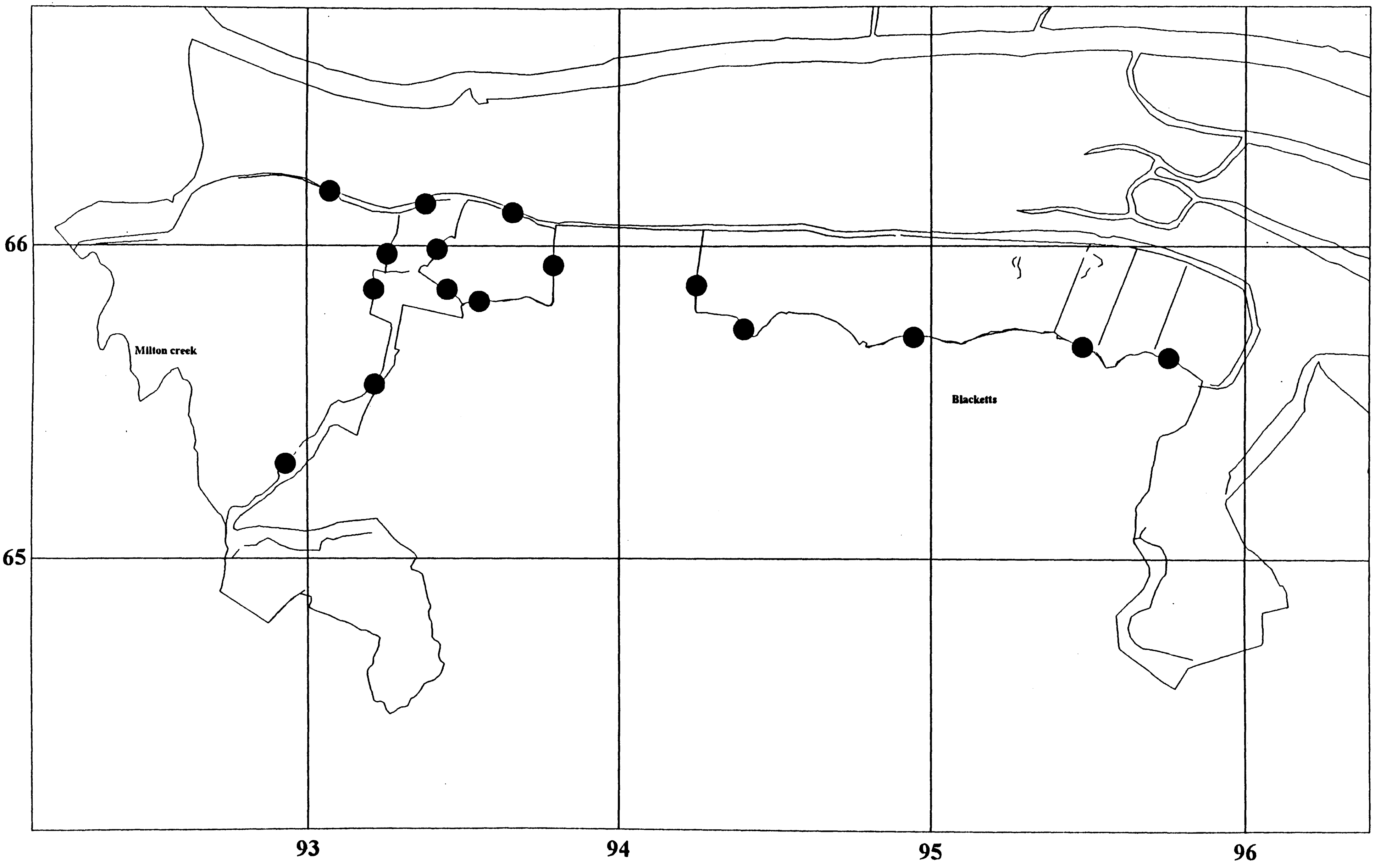
Triglochin maritima



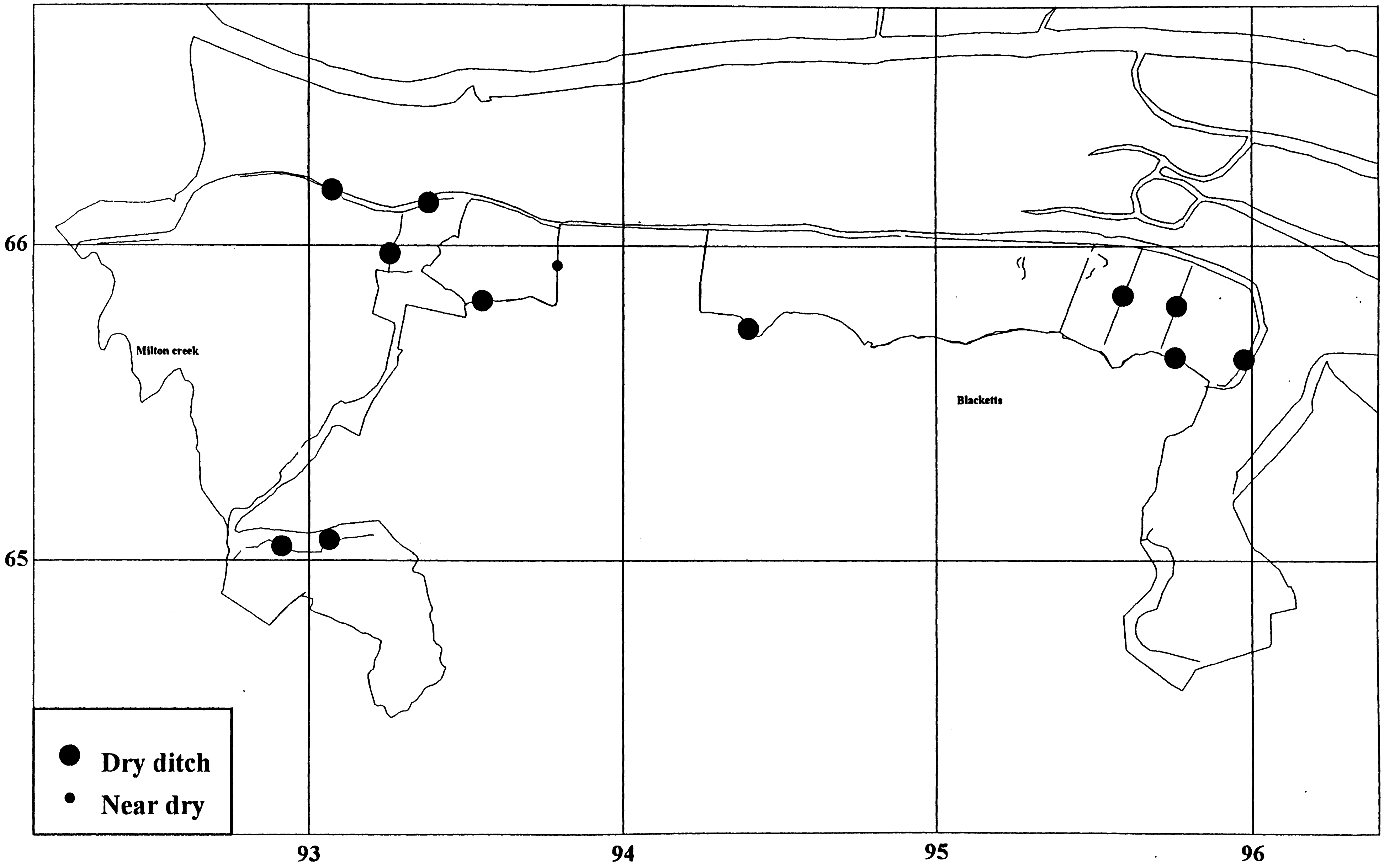
Scrub cover


66
65
93
94
95
96
Milton creek
Blacketts
Abundance scale
1 - 9%
10 - 59%
60 - 100%

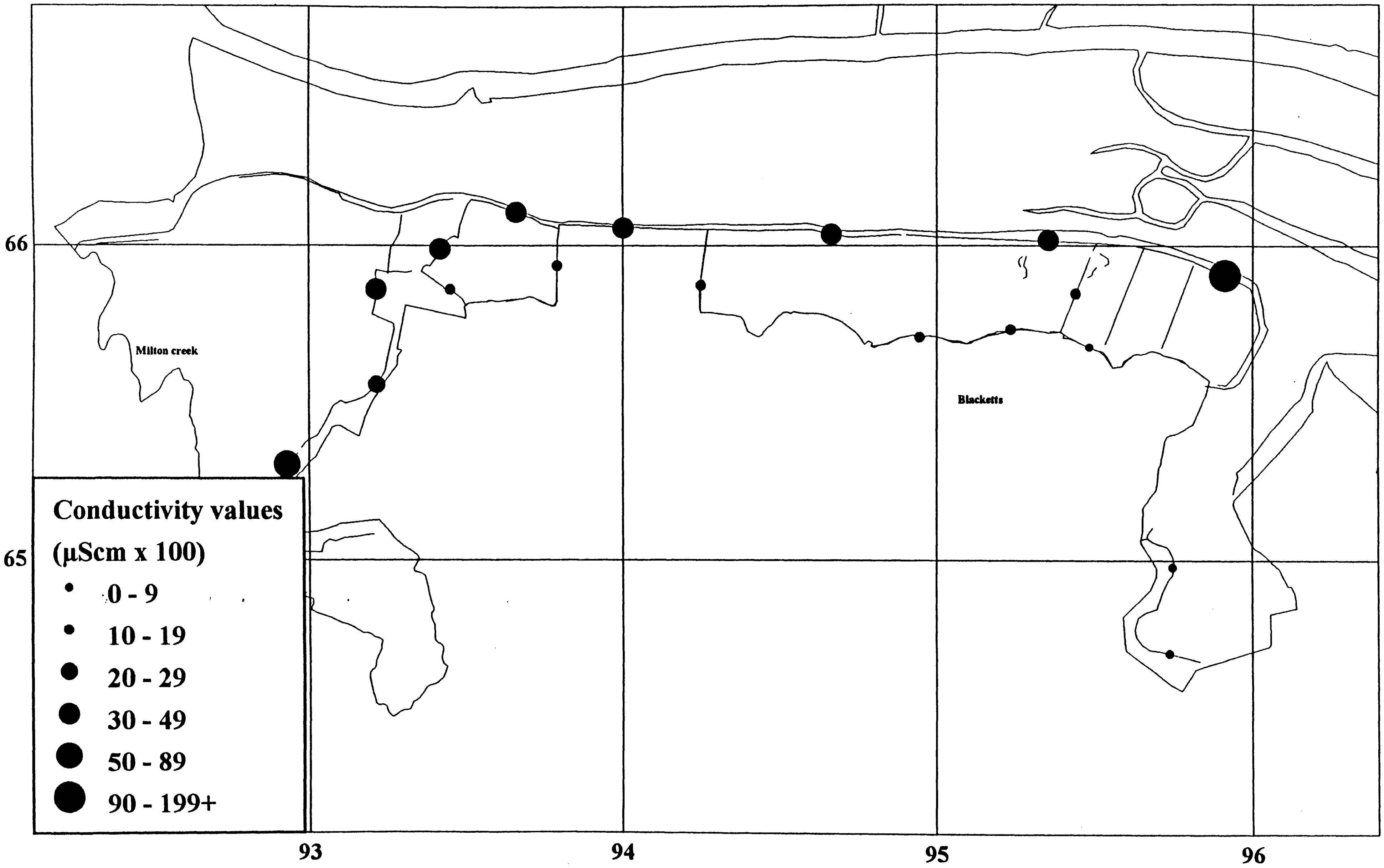
Ditch choked



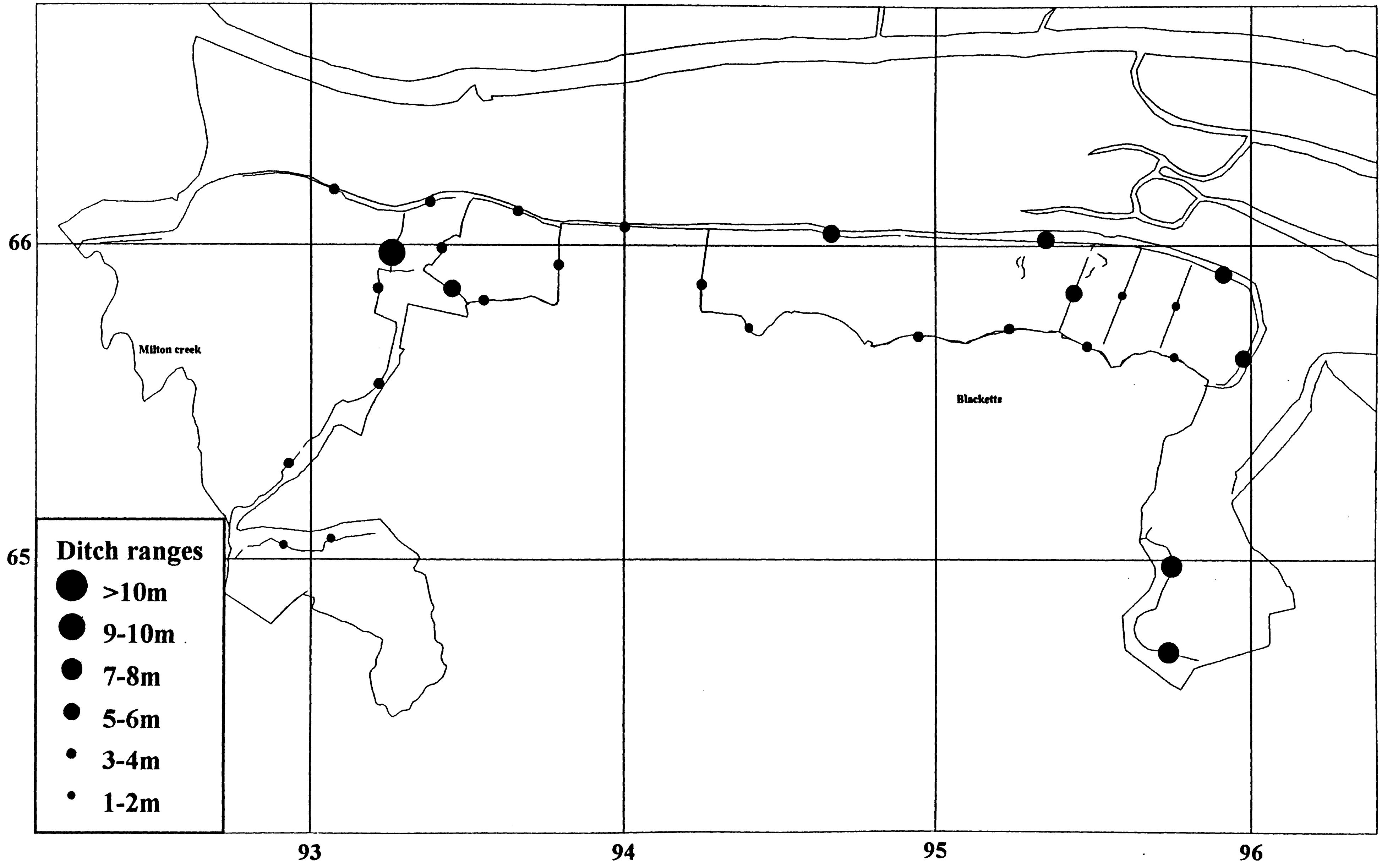
Ditch dry



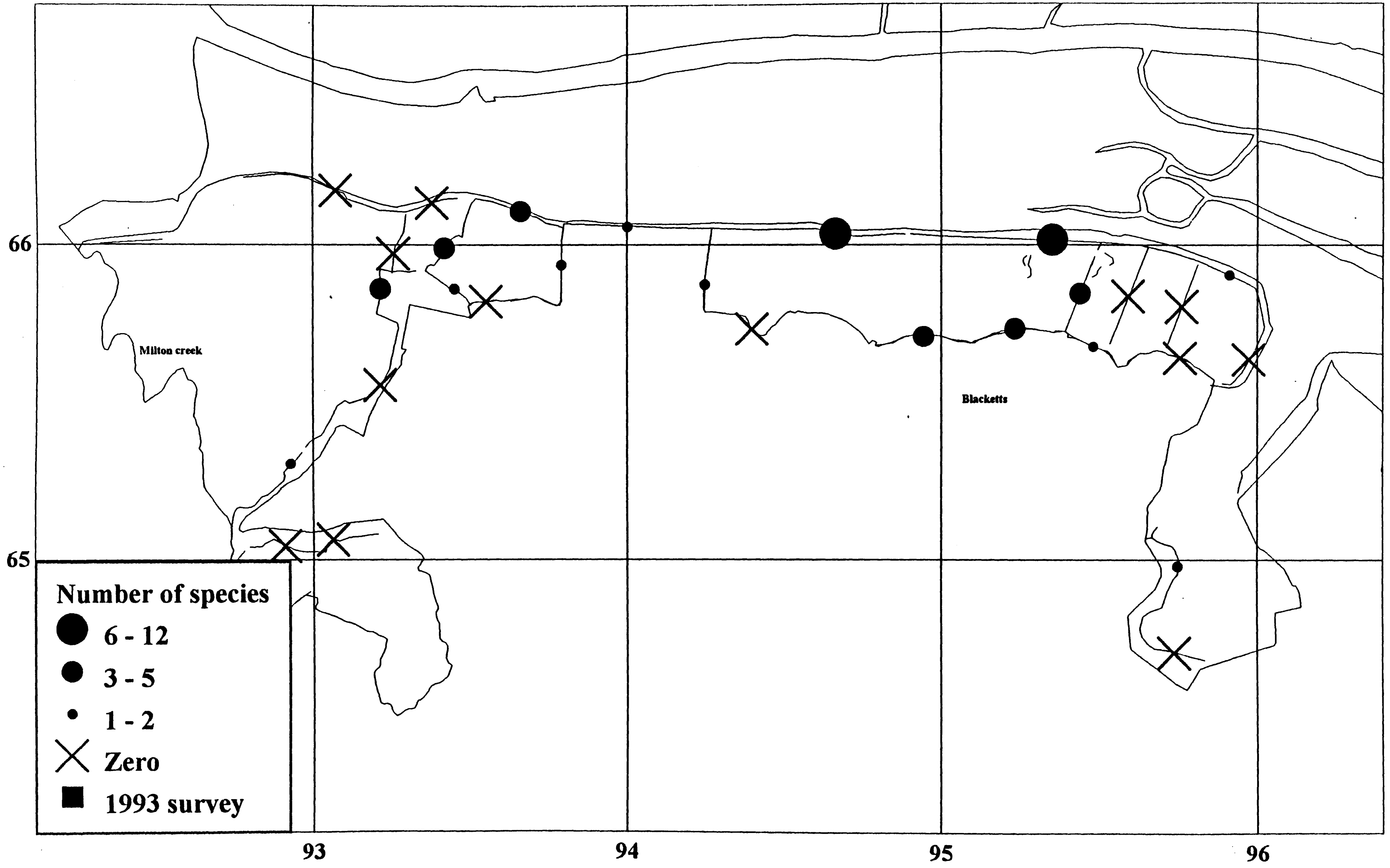
Conductivity values



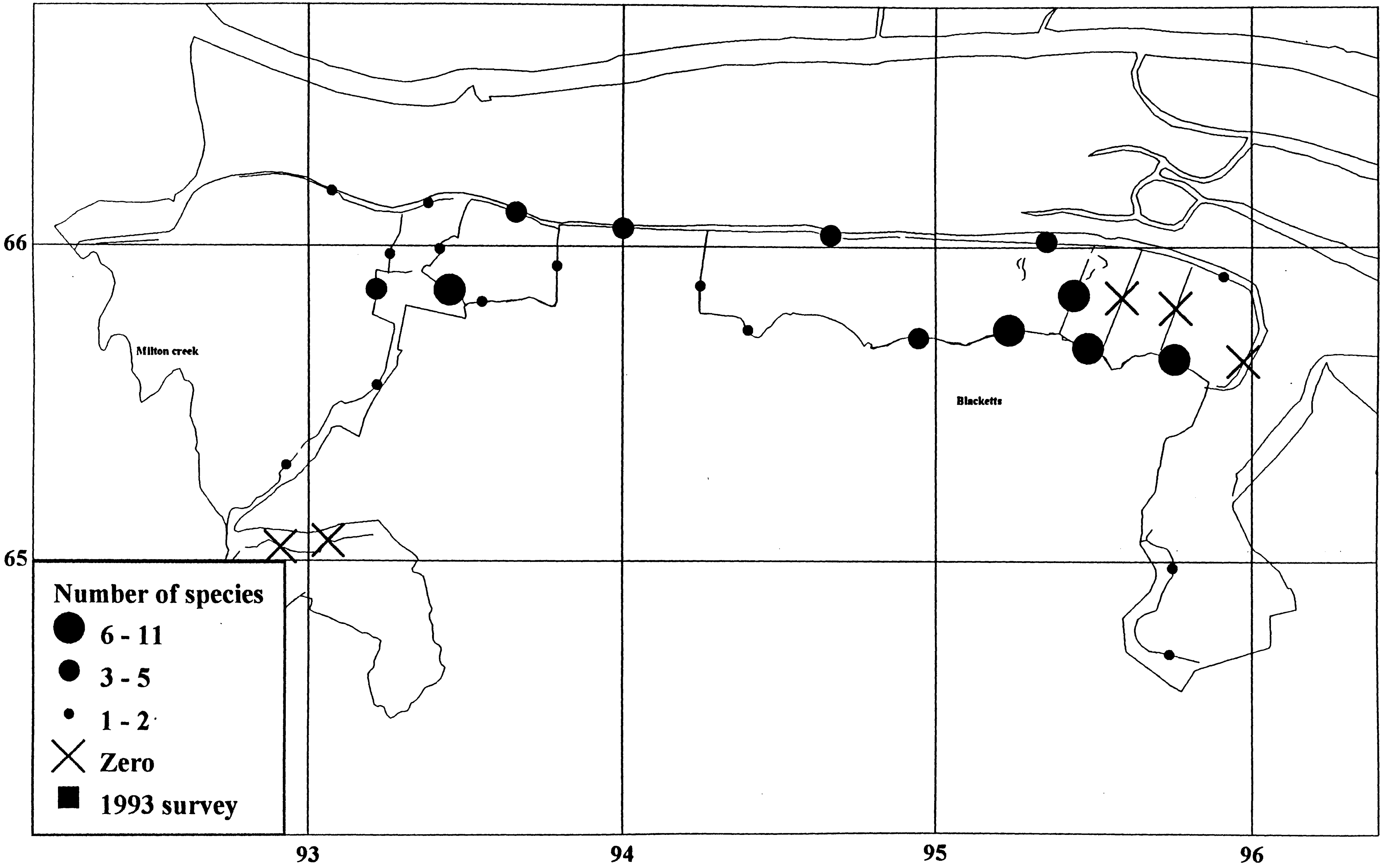
Ditch widths



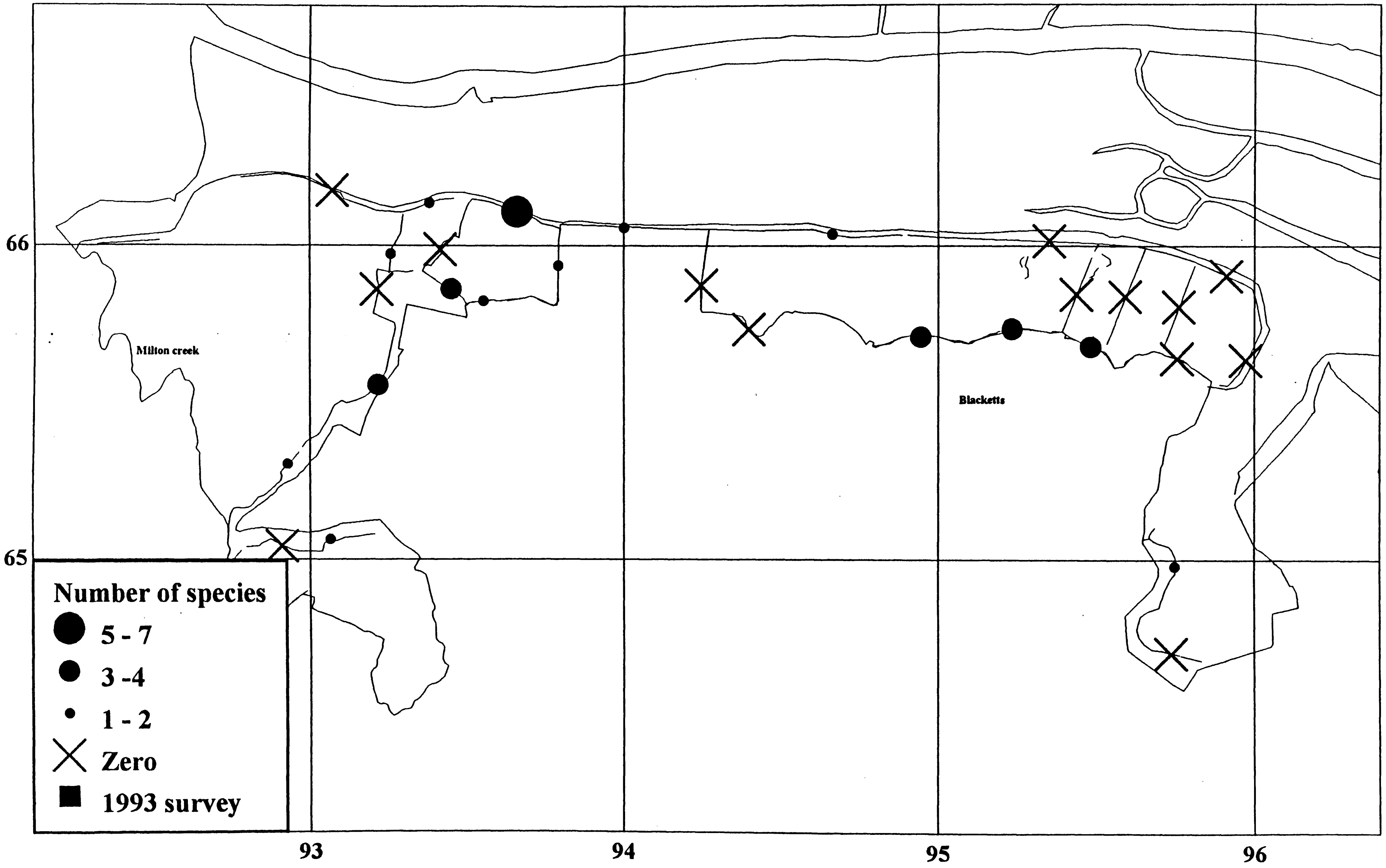
Number of aquatic species



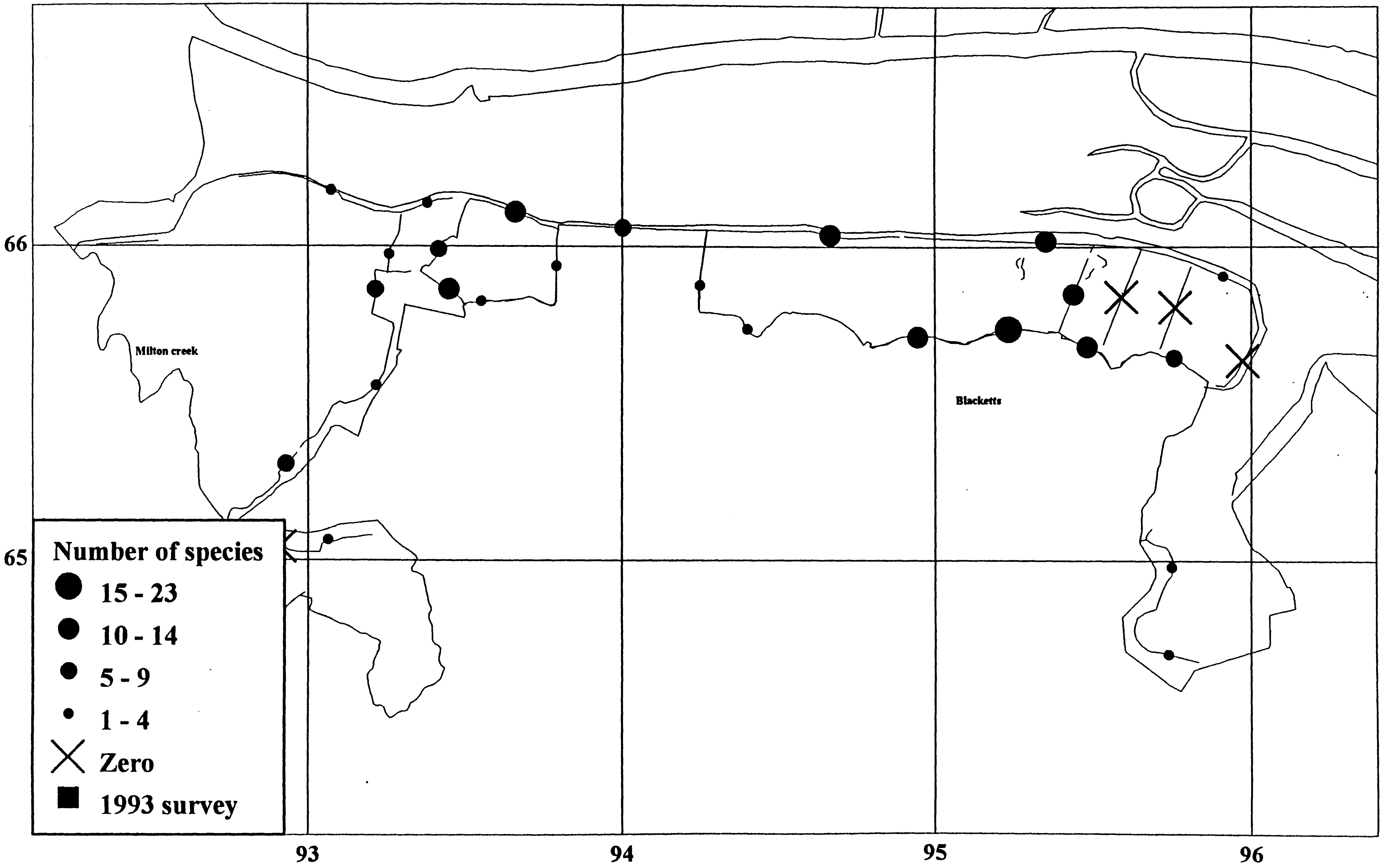
Number of emergent species



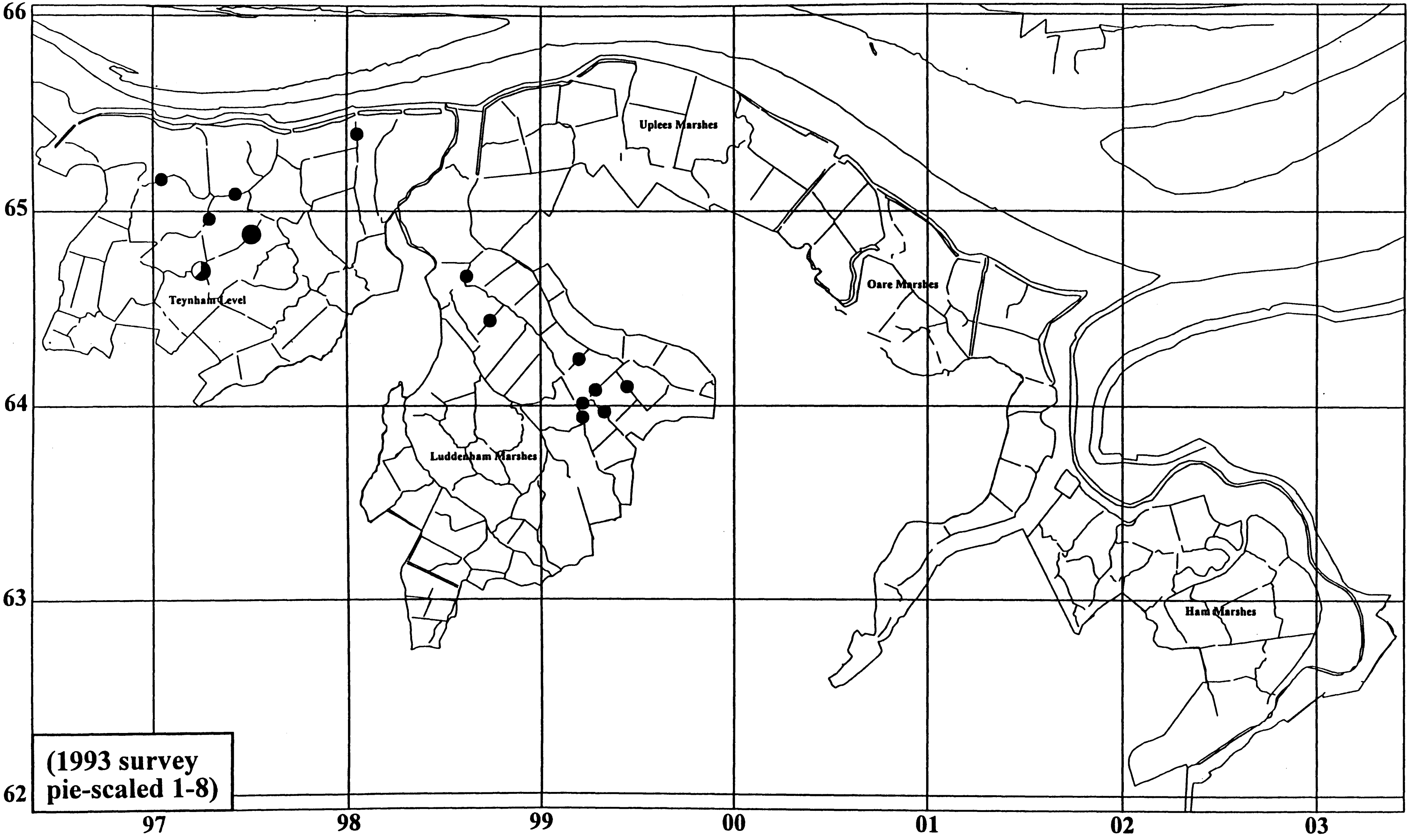
Number of bank species



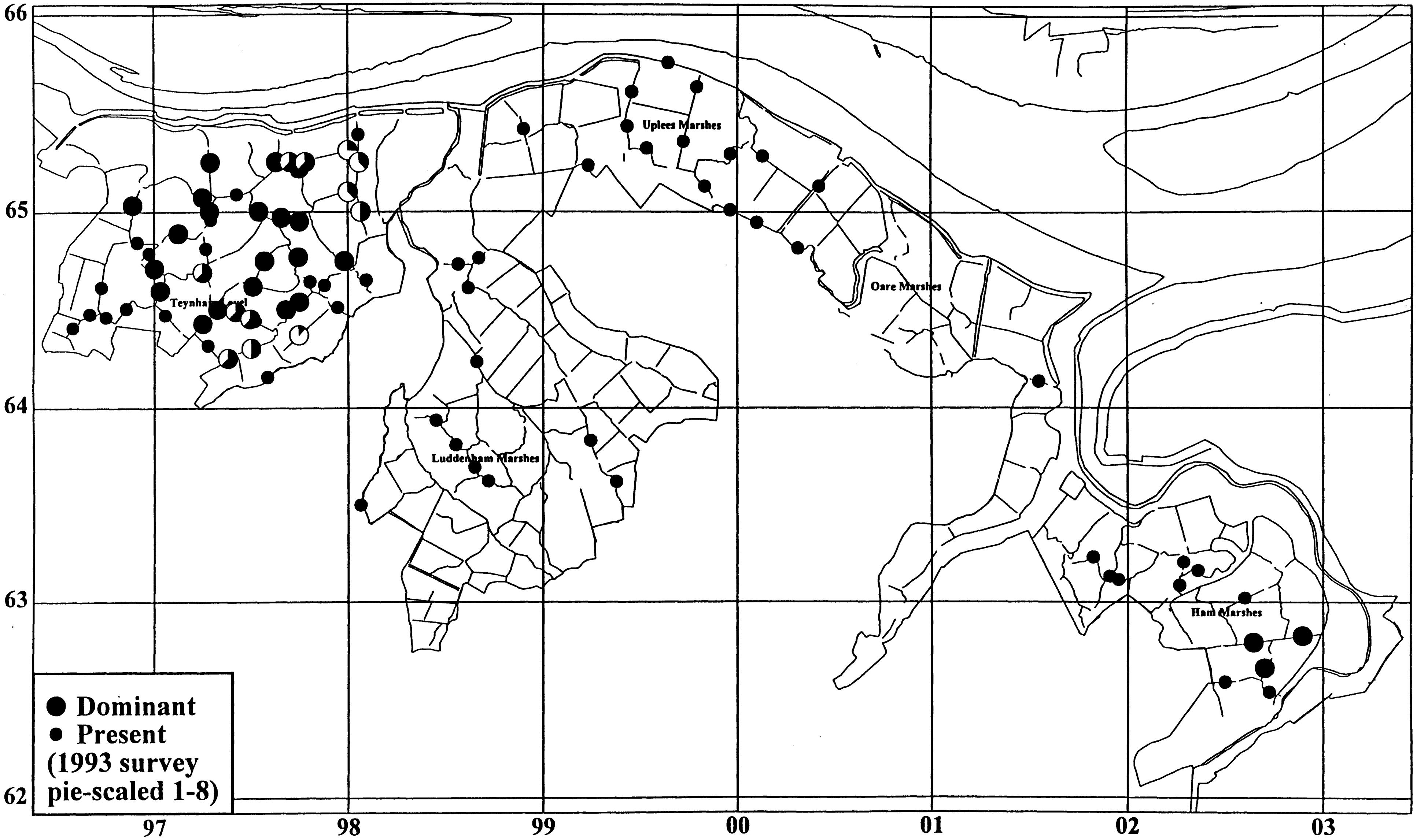
Total number of species



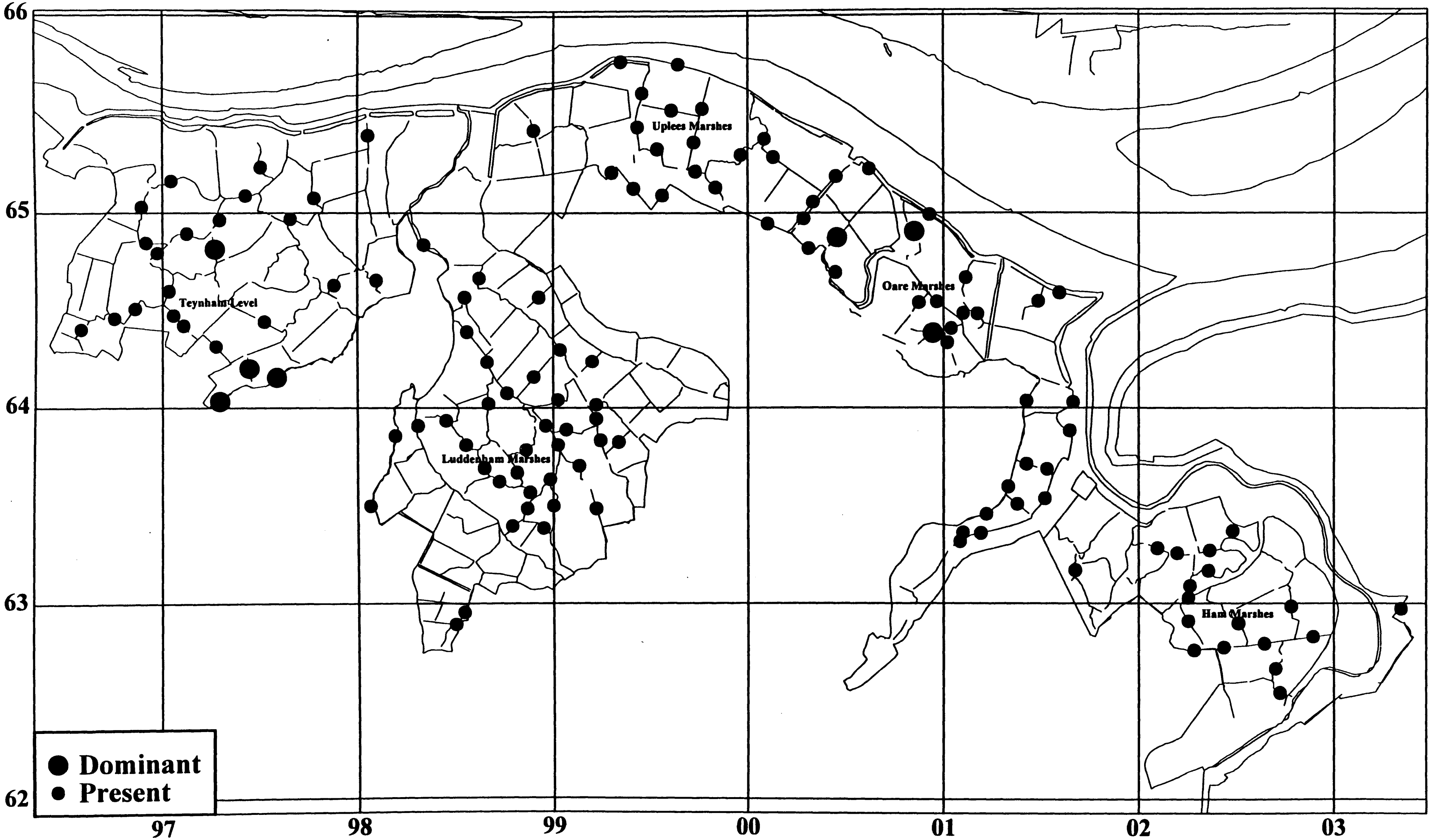
Ceratophyllum demersum



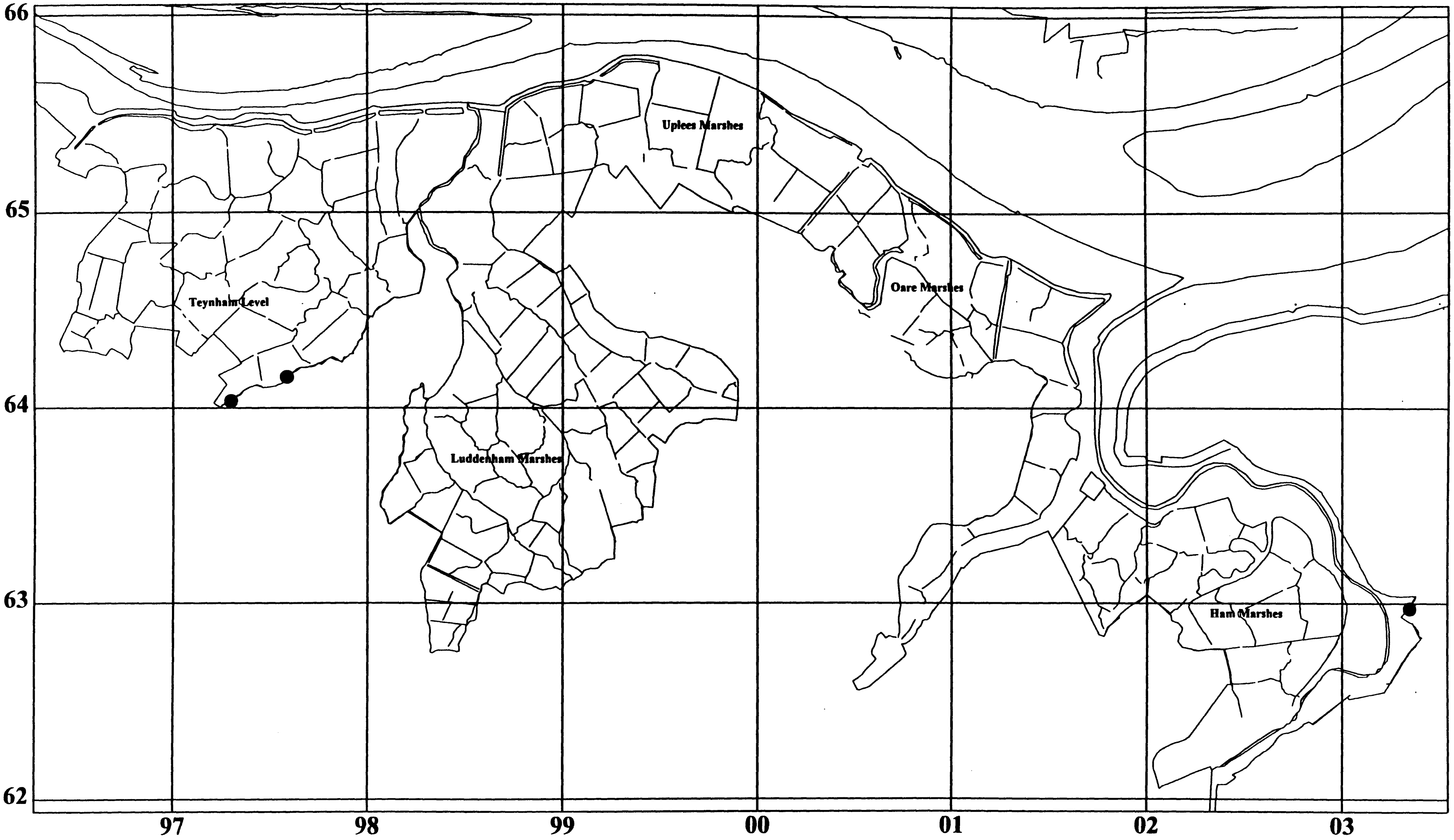
Ceratophyllum submersum



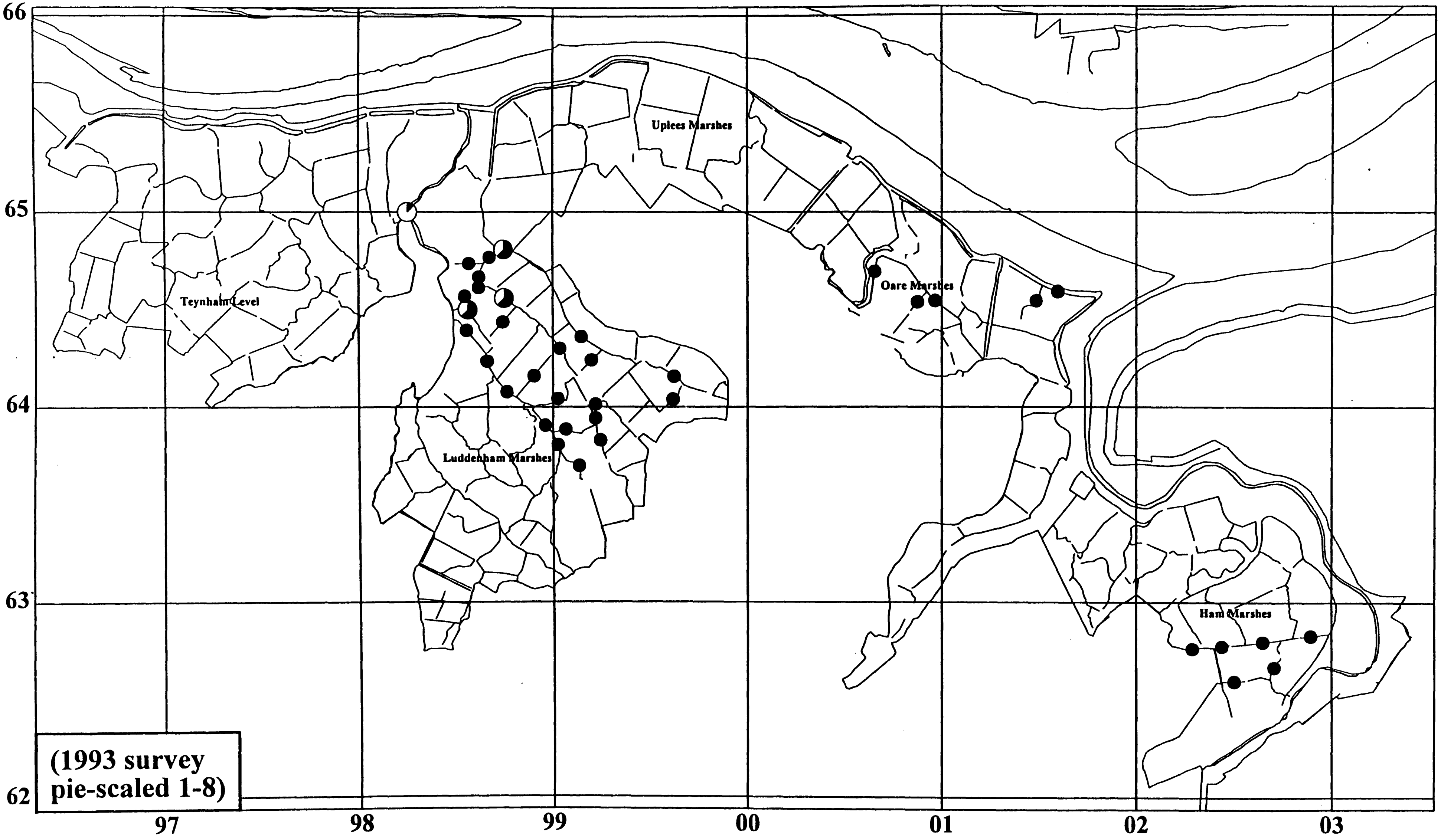
Filamentous algae



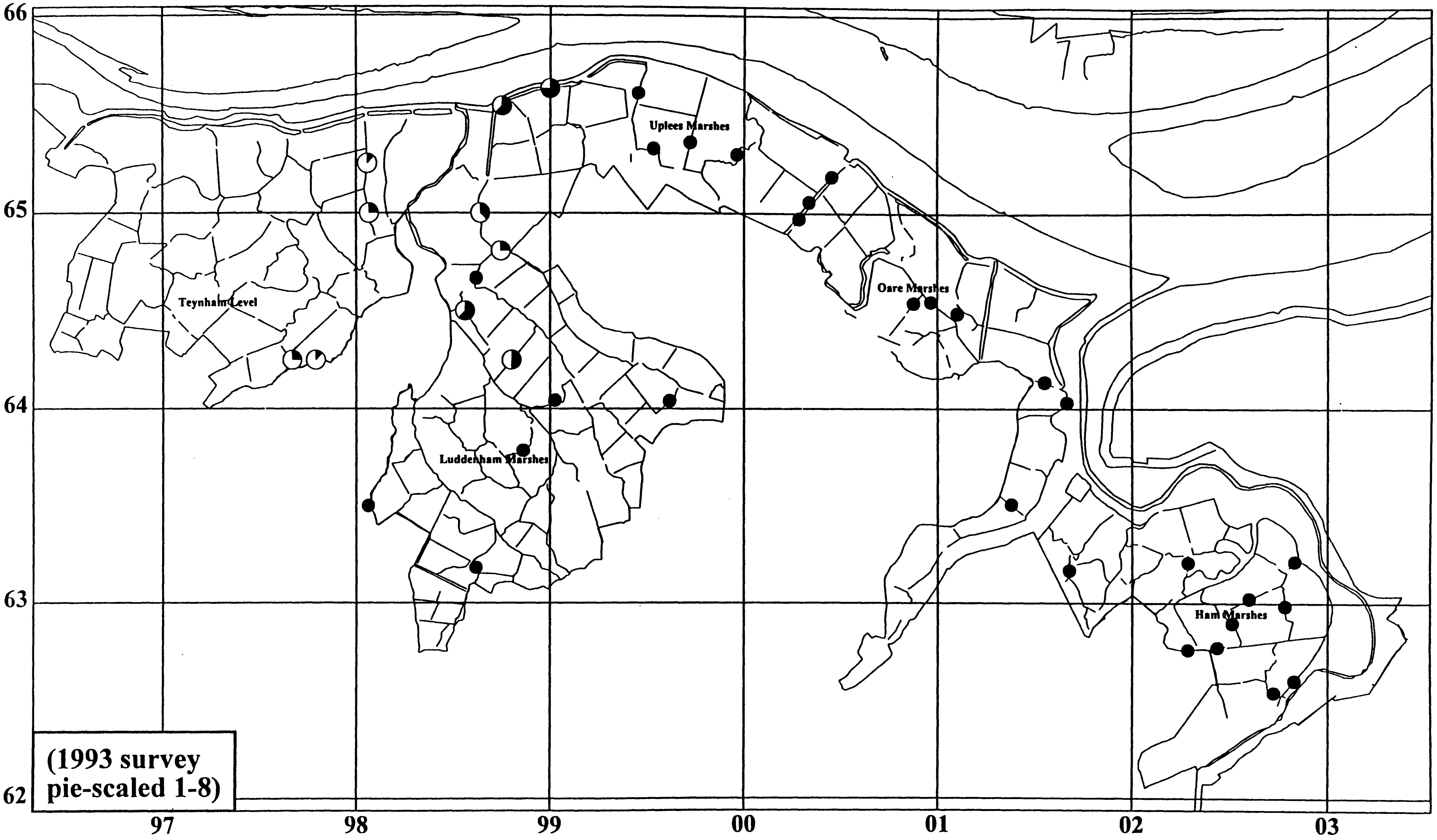
Groenlandia densa



Hydrocharis morsus-ranae

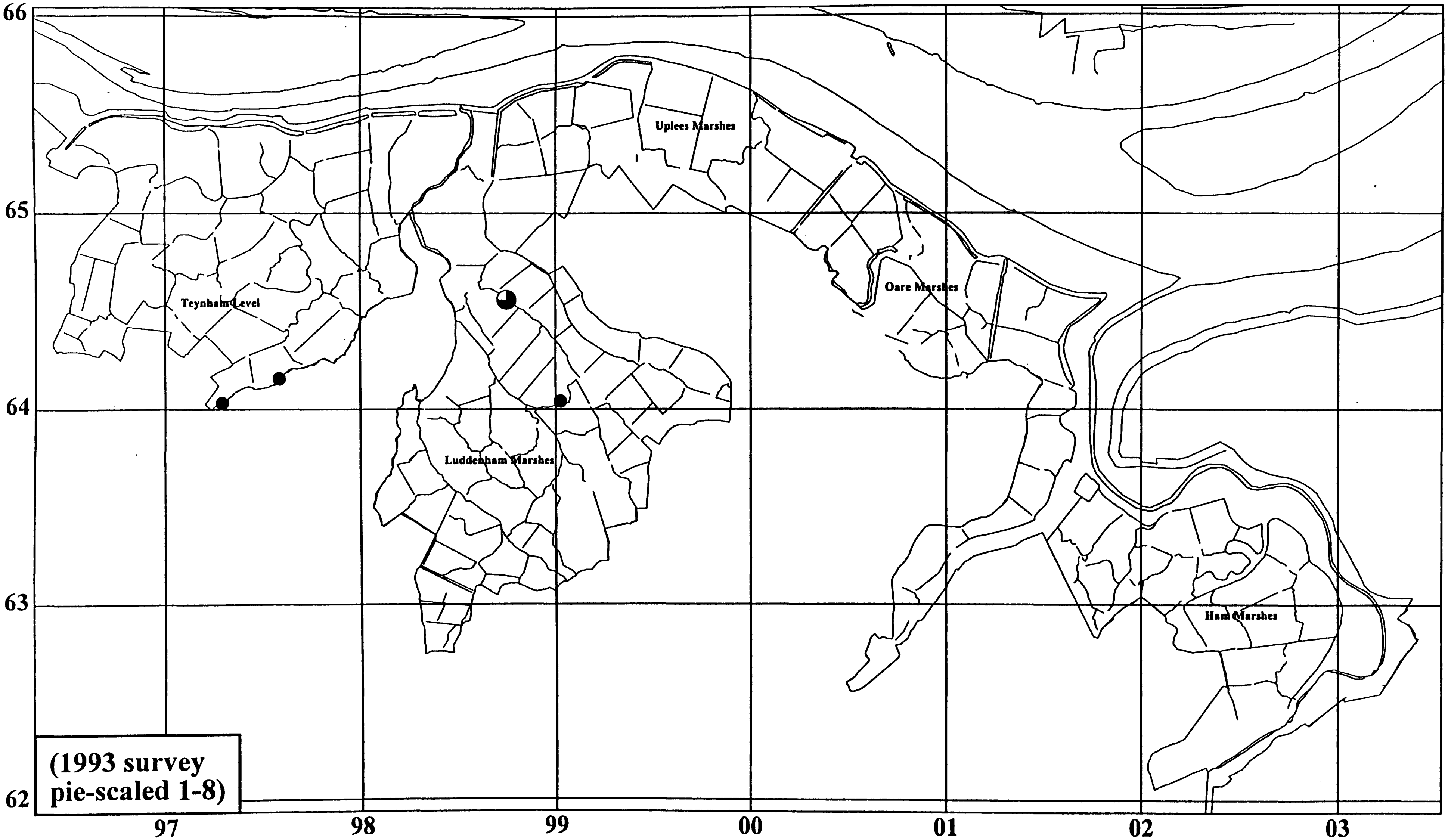


Myriophyllum spicatum



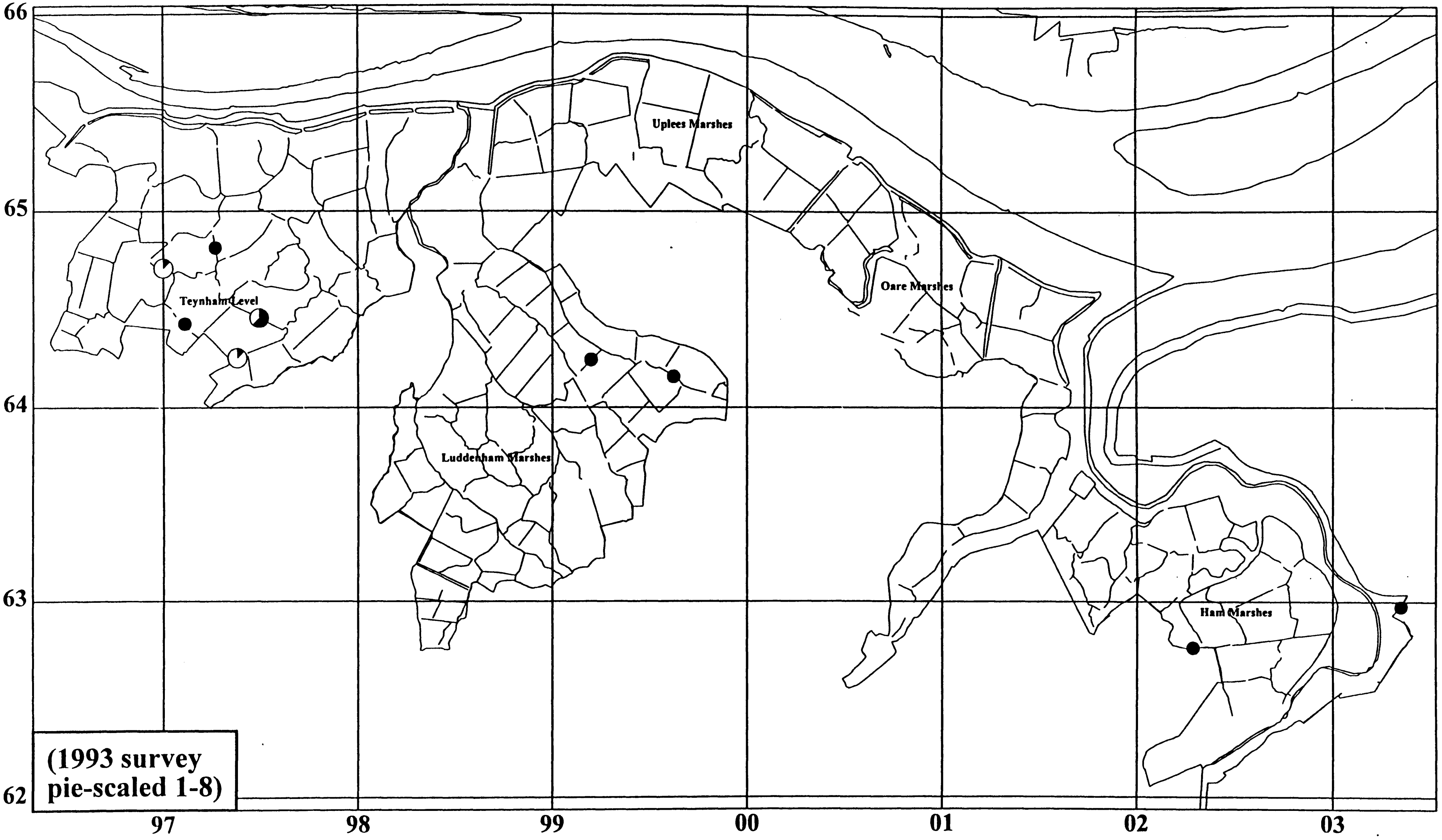
(1993 survey
pie-scaled 1-8)

Myriophyllum verticillatum

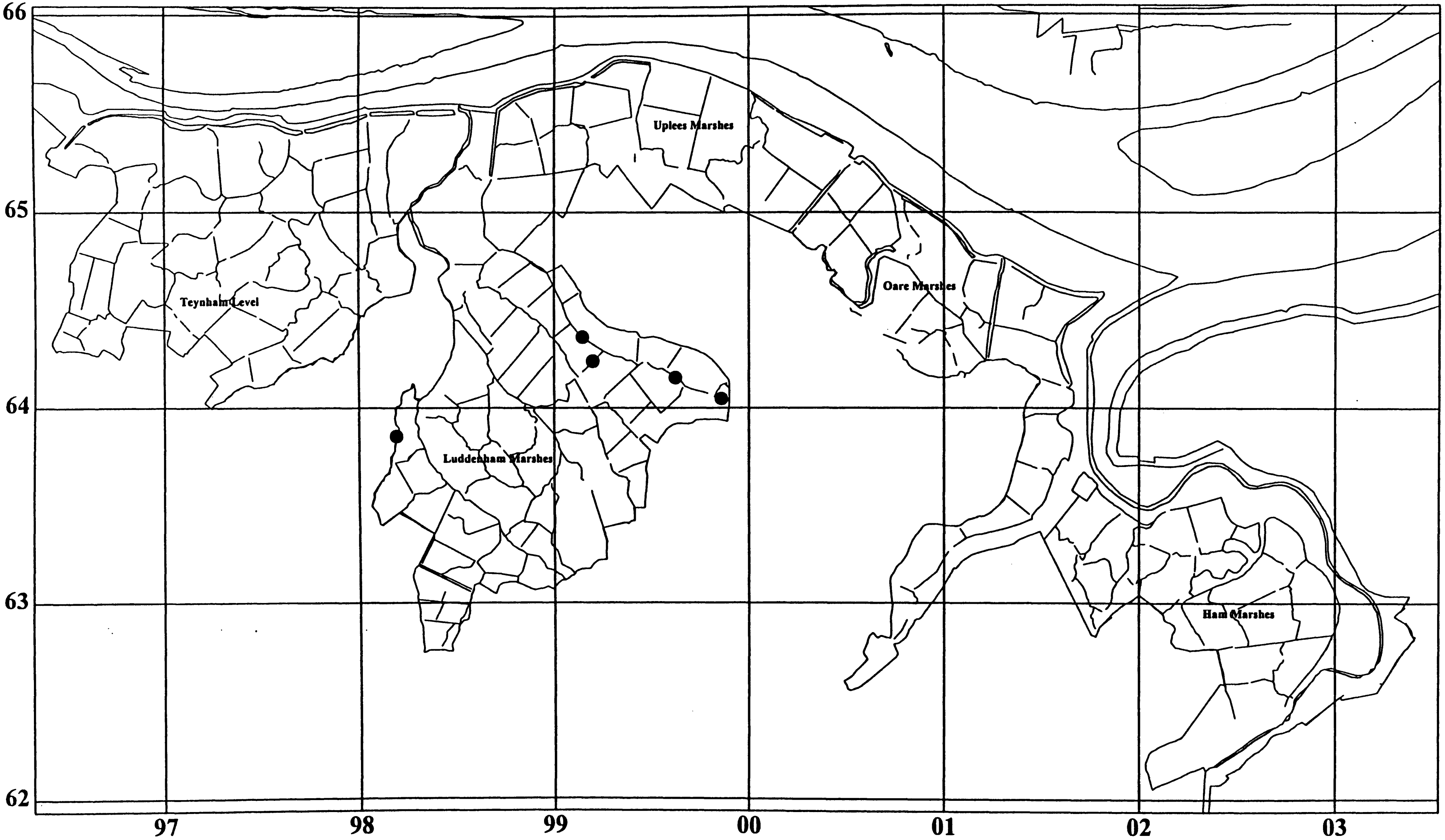


(1993 survey
pie-scaled 1-8)

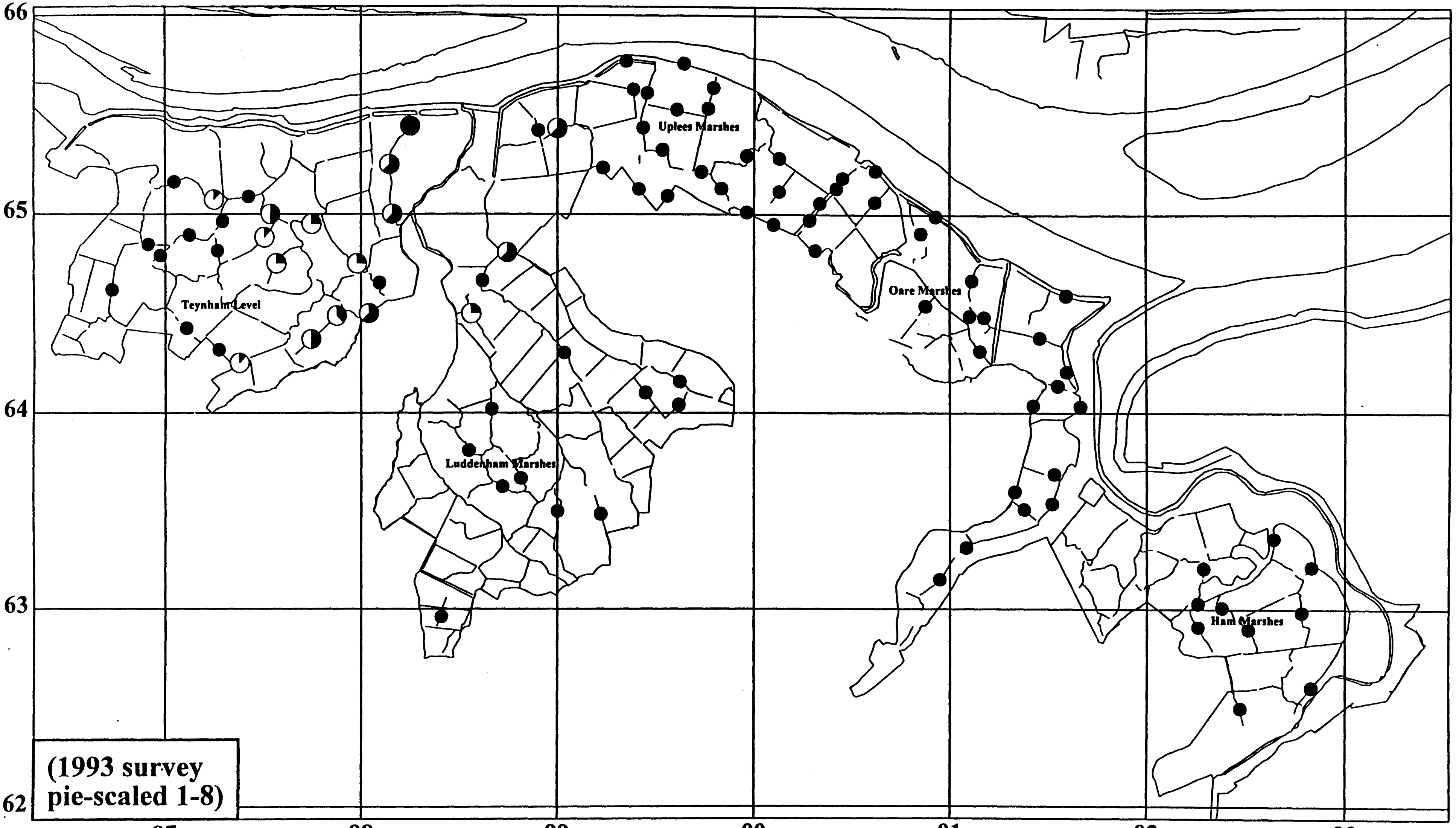
Potamogeton crispus



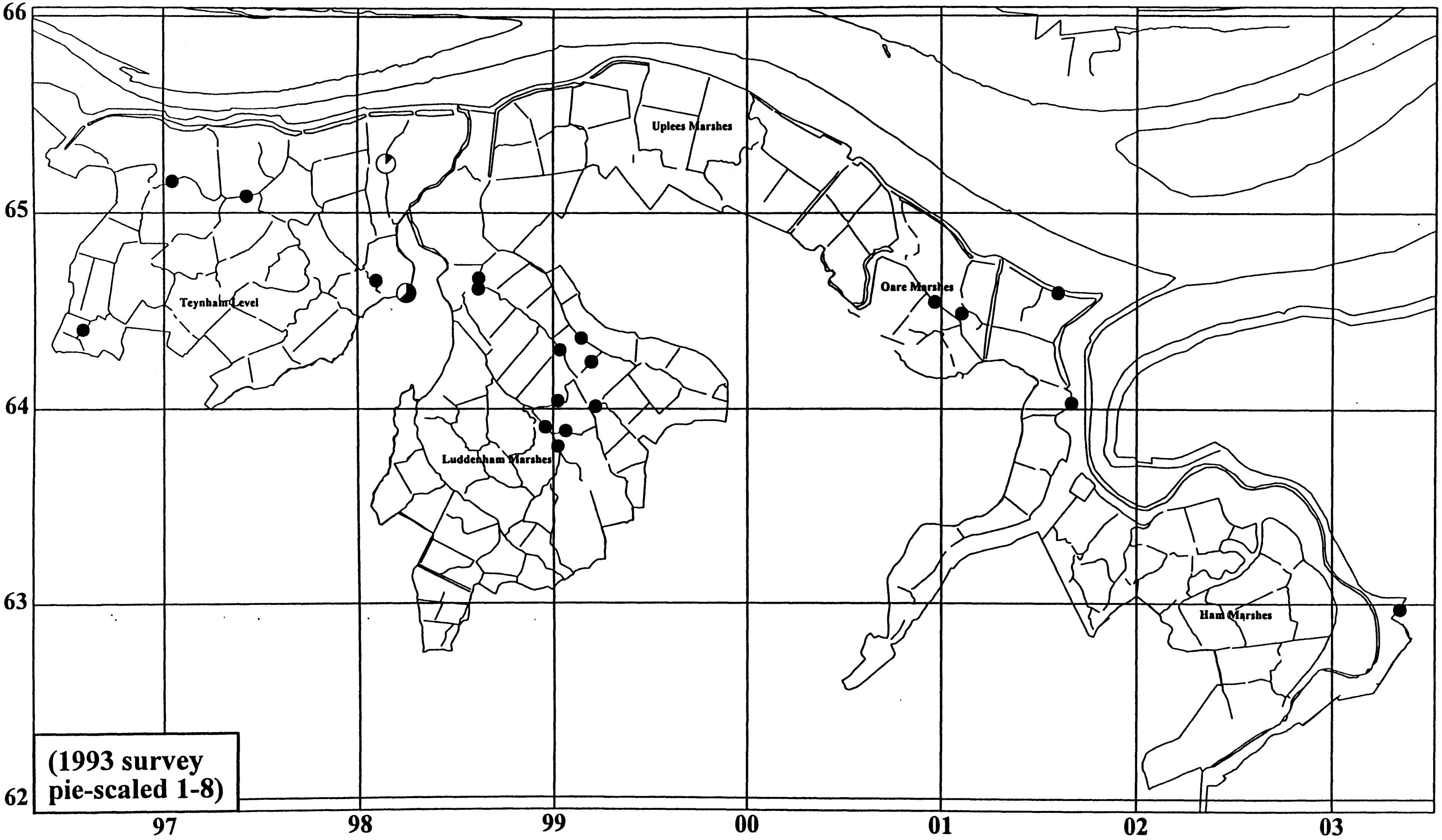
Potamogeton natans



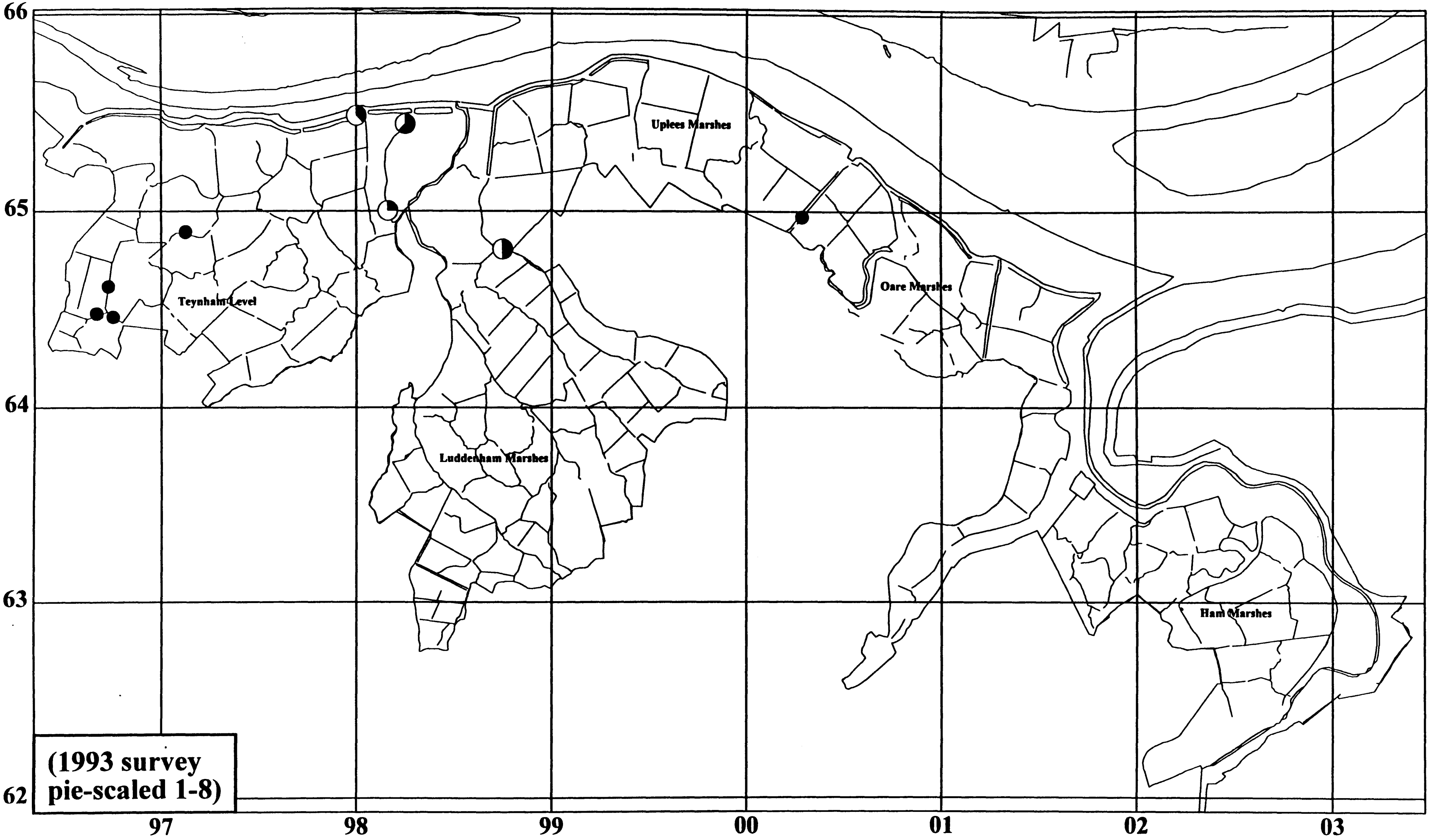
Potamogeton pectinatus



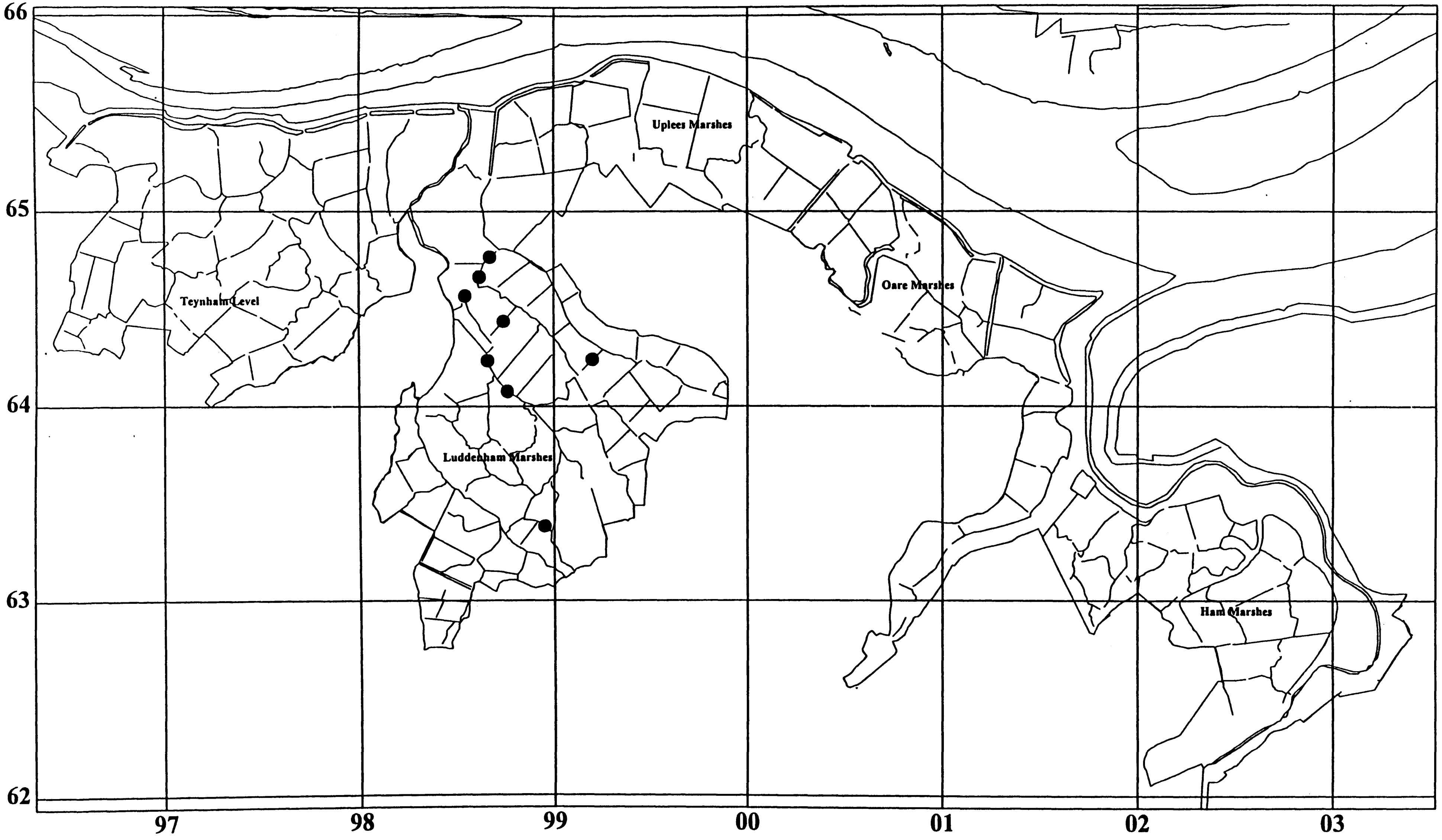
Potamogeton pusillus/berchtoldii



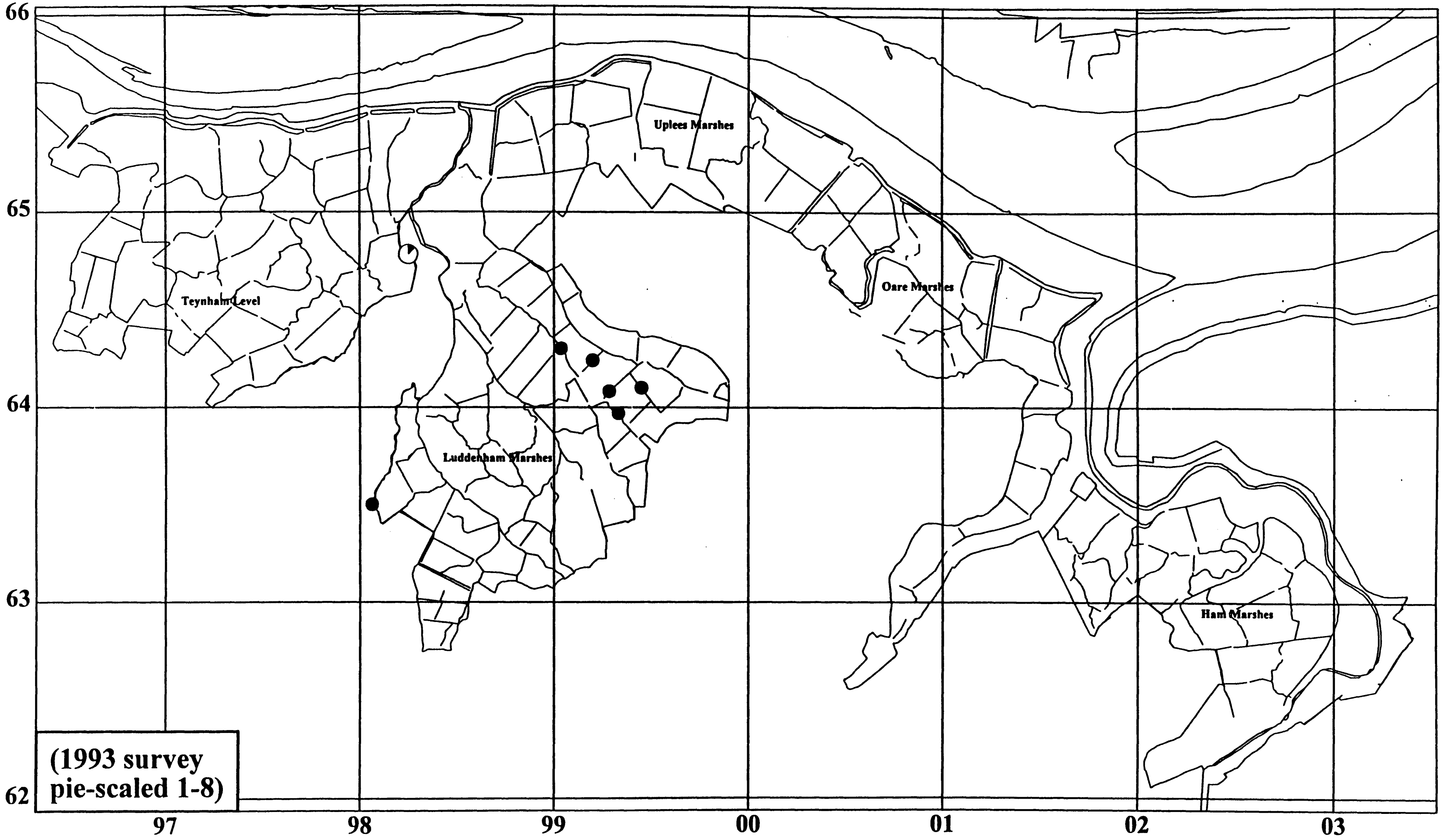
Ranunculus baudotii



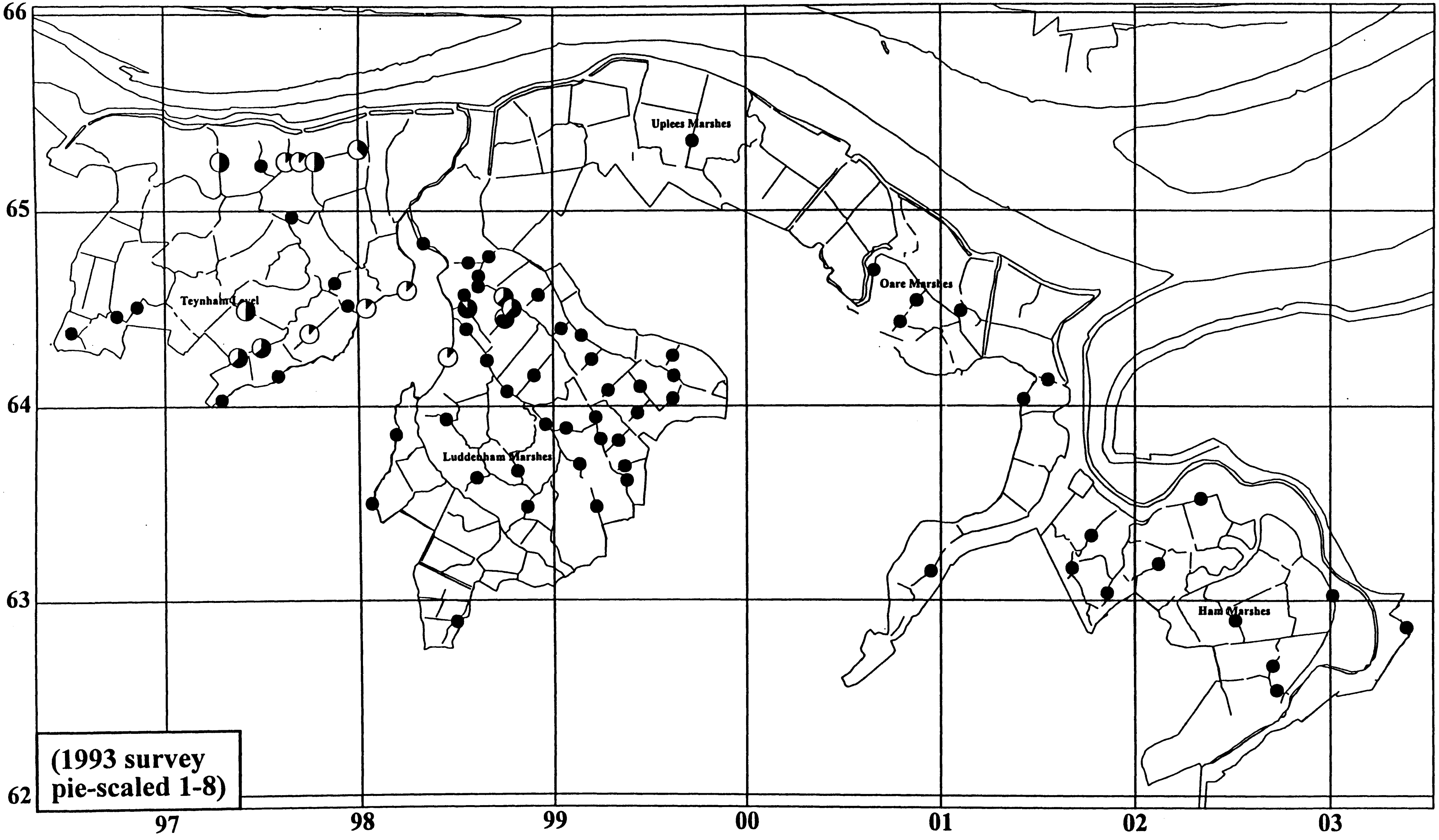
Utricularia vulgaris



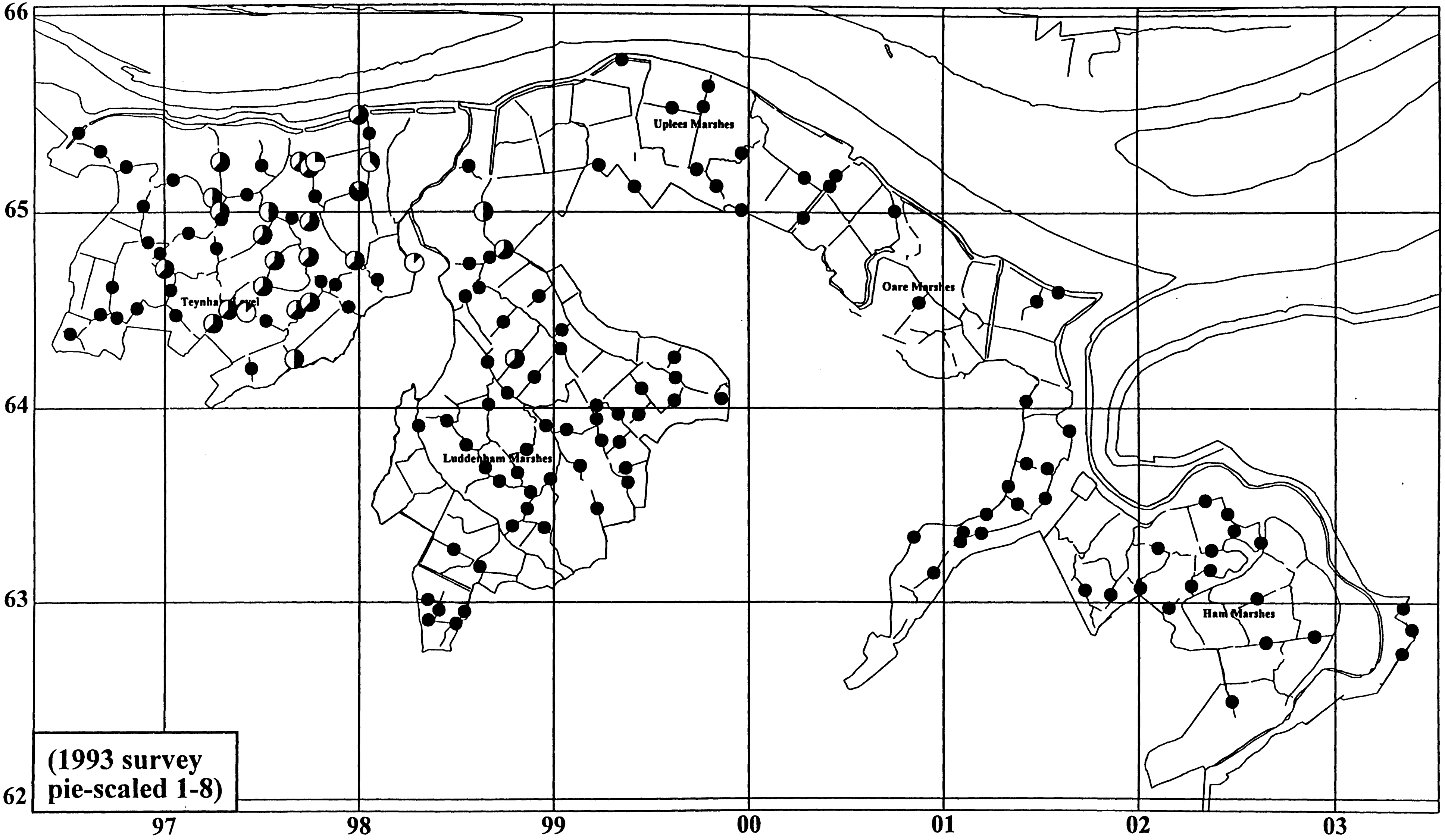
Zannichellia palustris



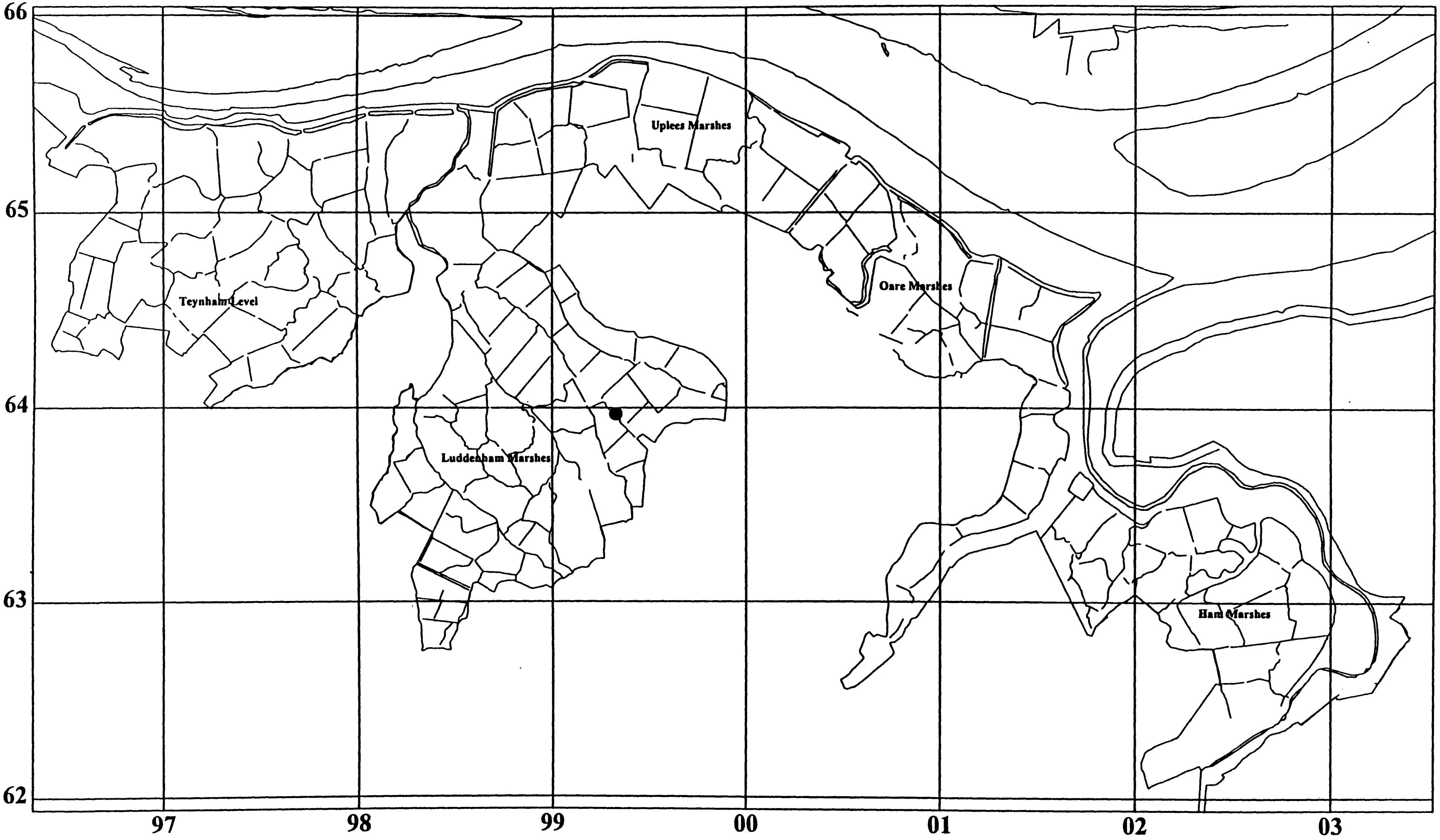
Apium nodiflorum



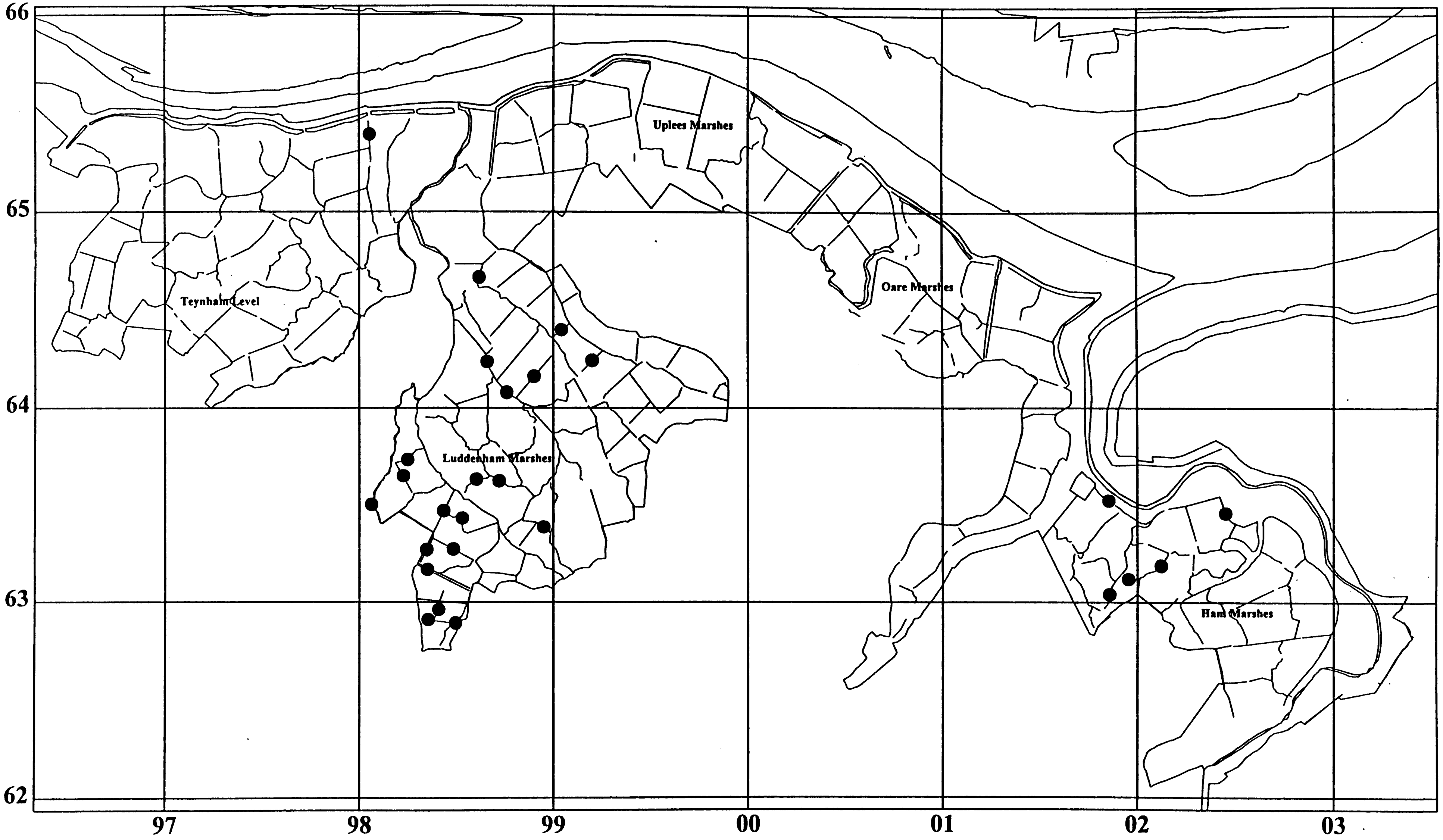
Berula erecta



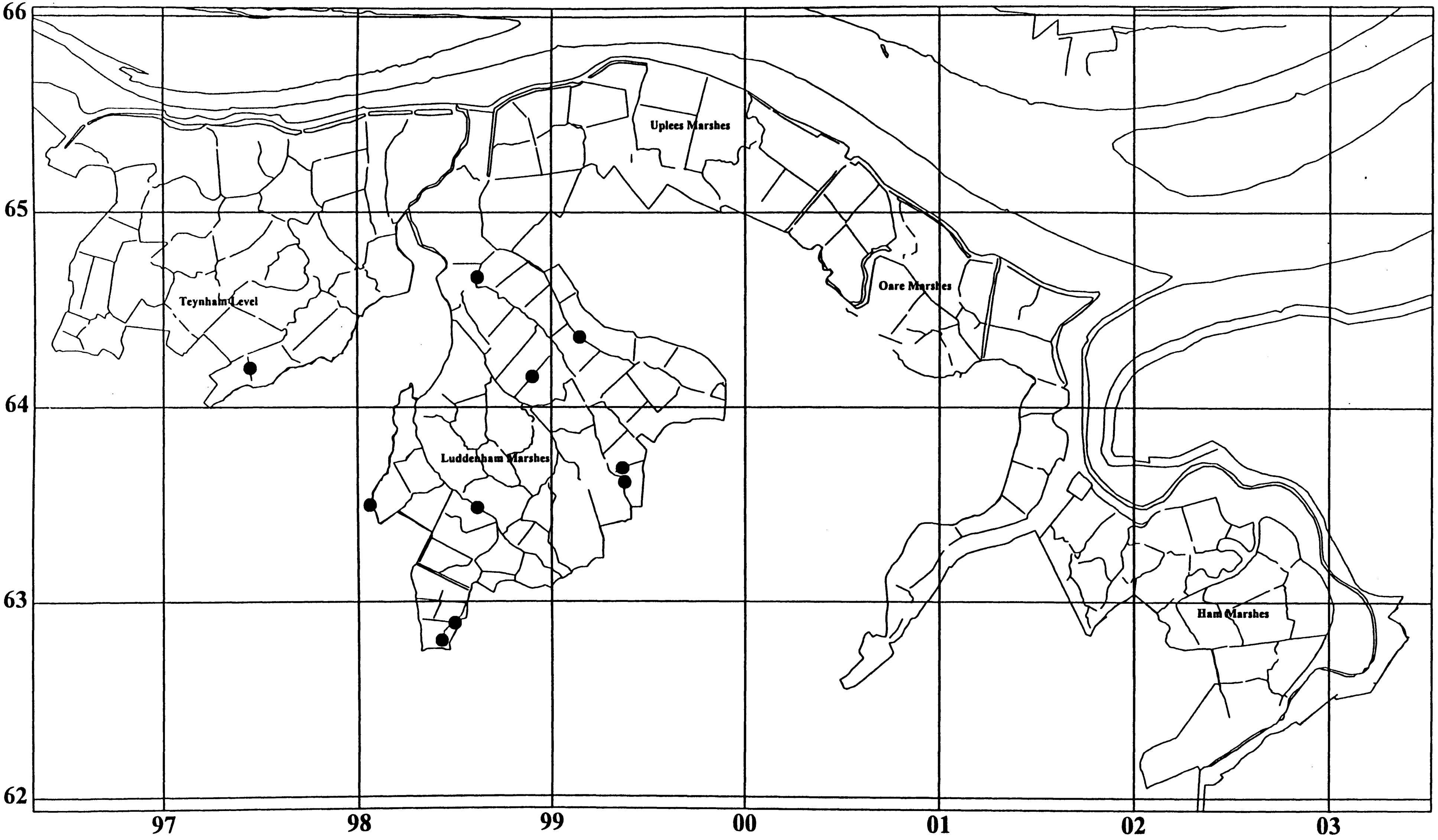
Butomus umbellatus



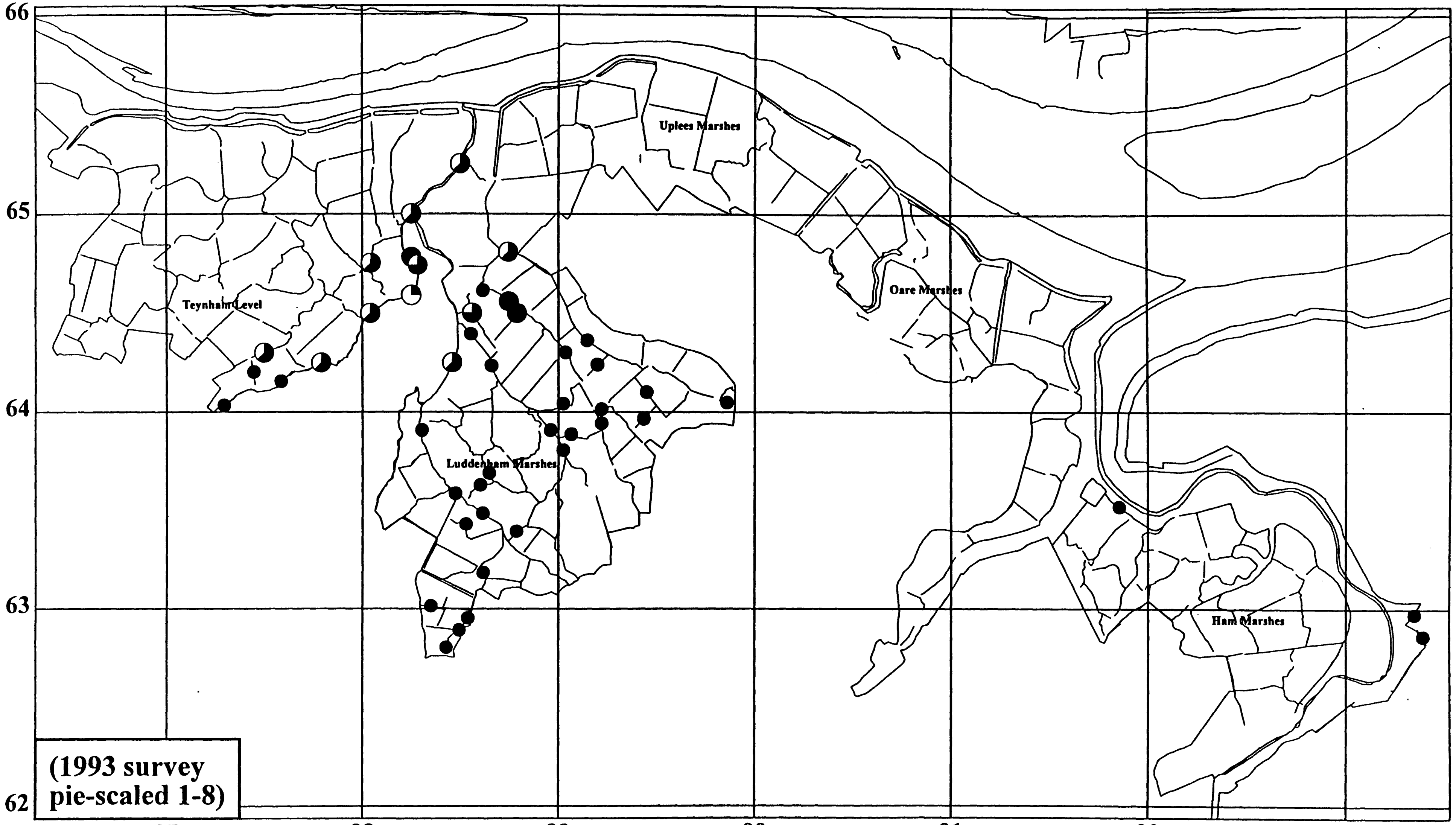
Carex riparia



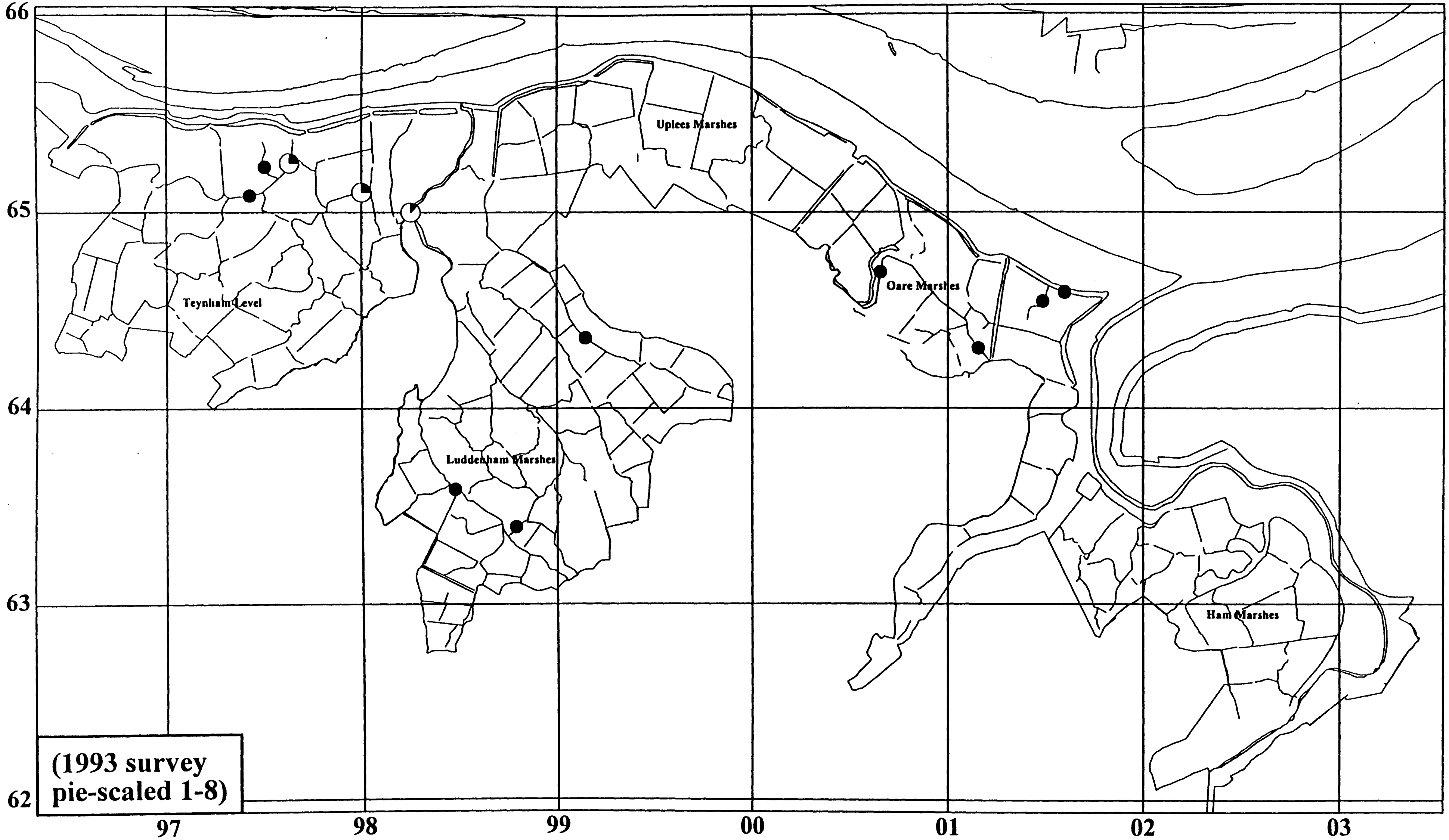
Equisetum fluviatile



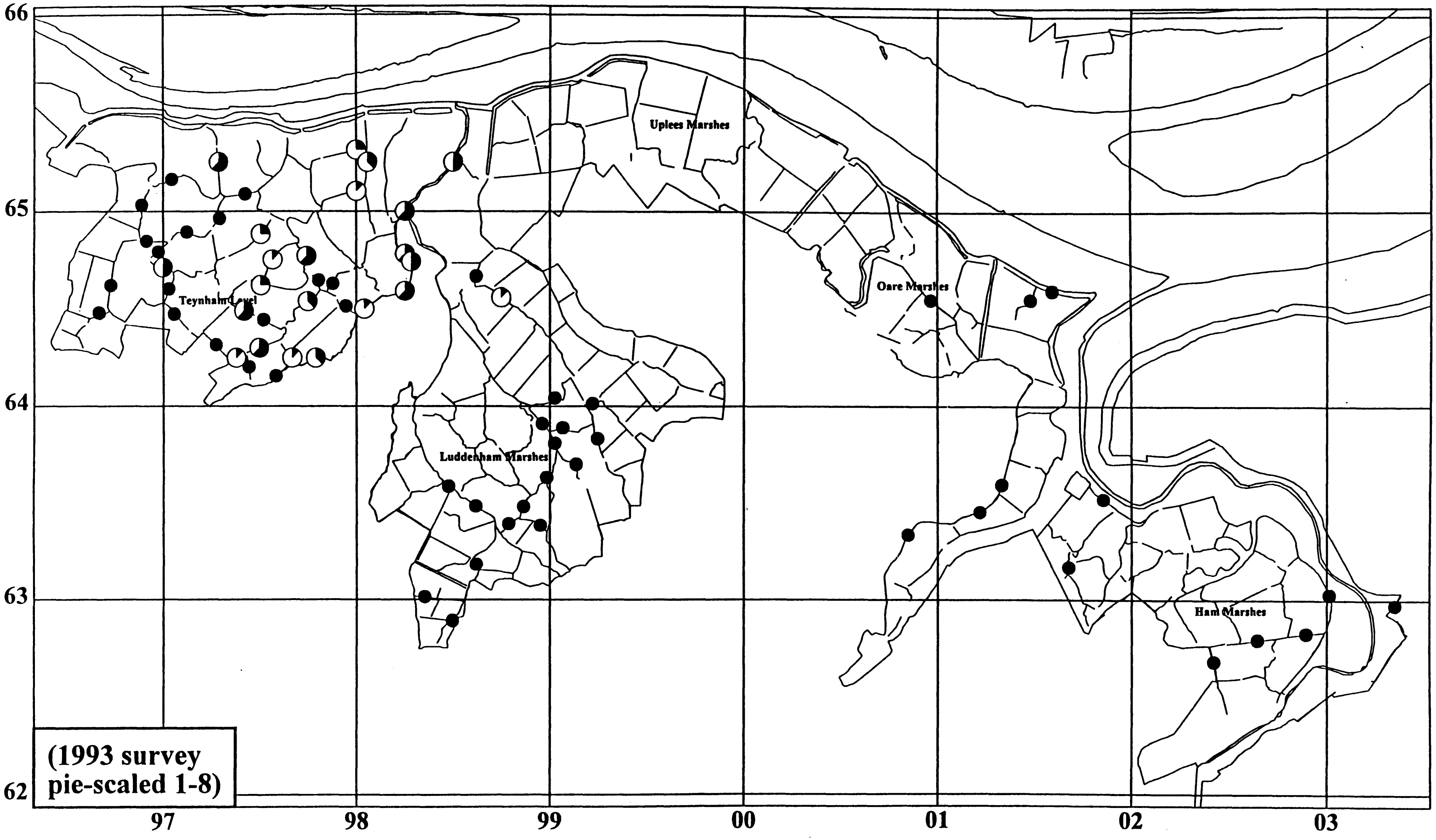
Glyceria maxima



Hippuris vulgaris

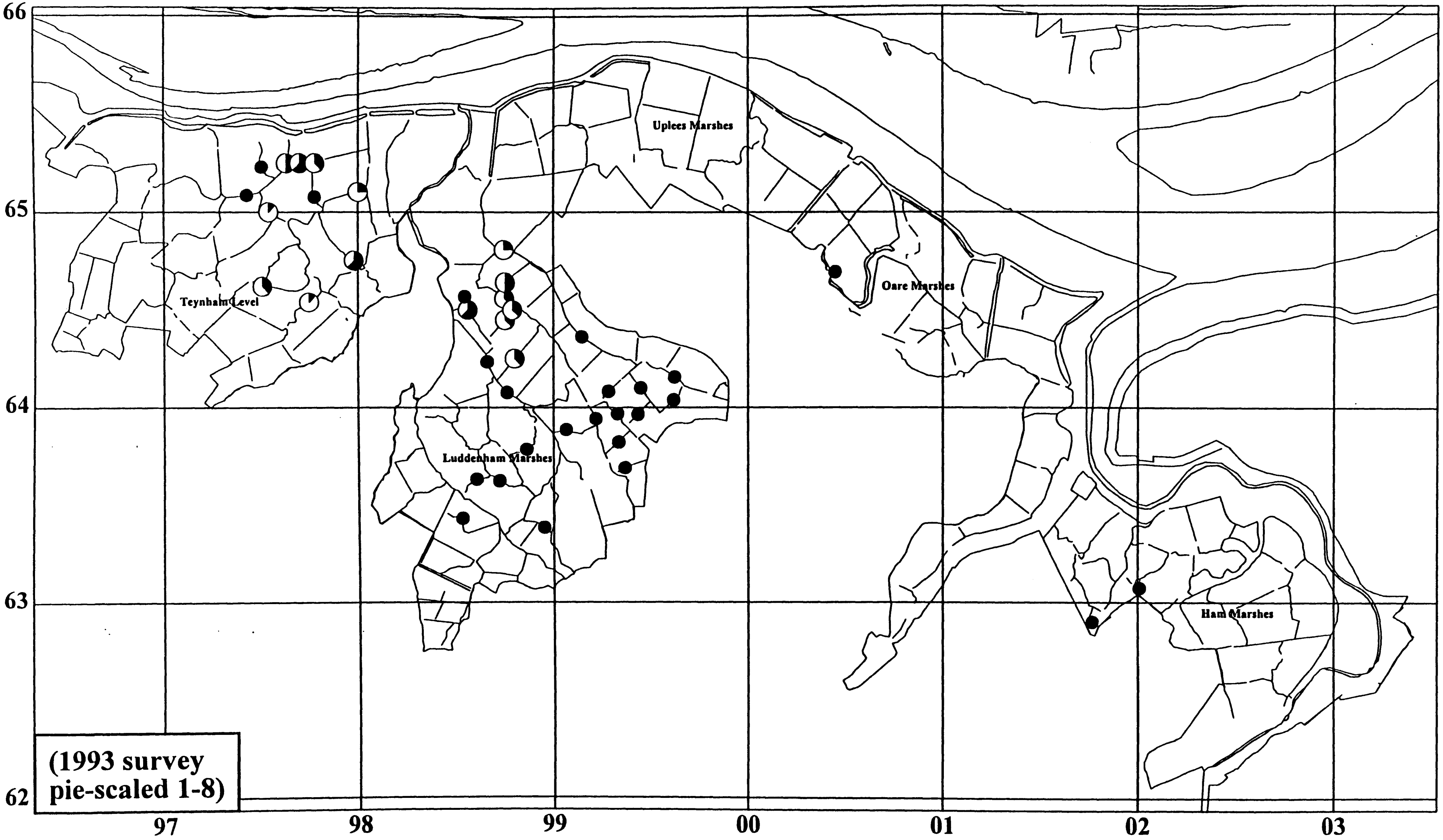


Nasturtium officinale agg

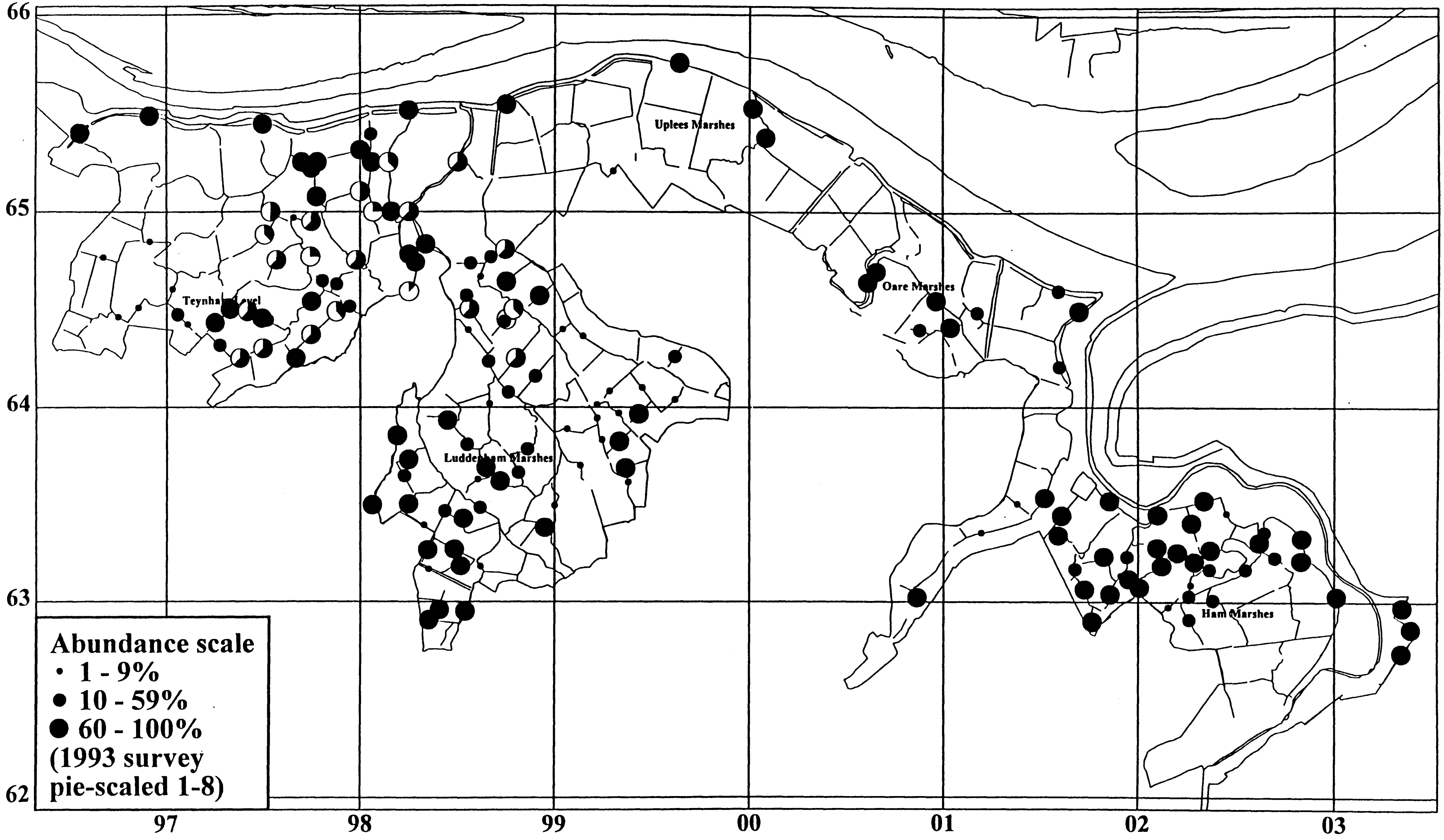


(1993 survey
pie-scaled 1-8)

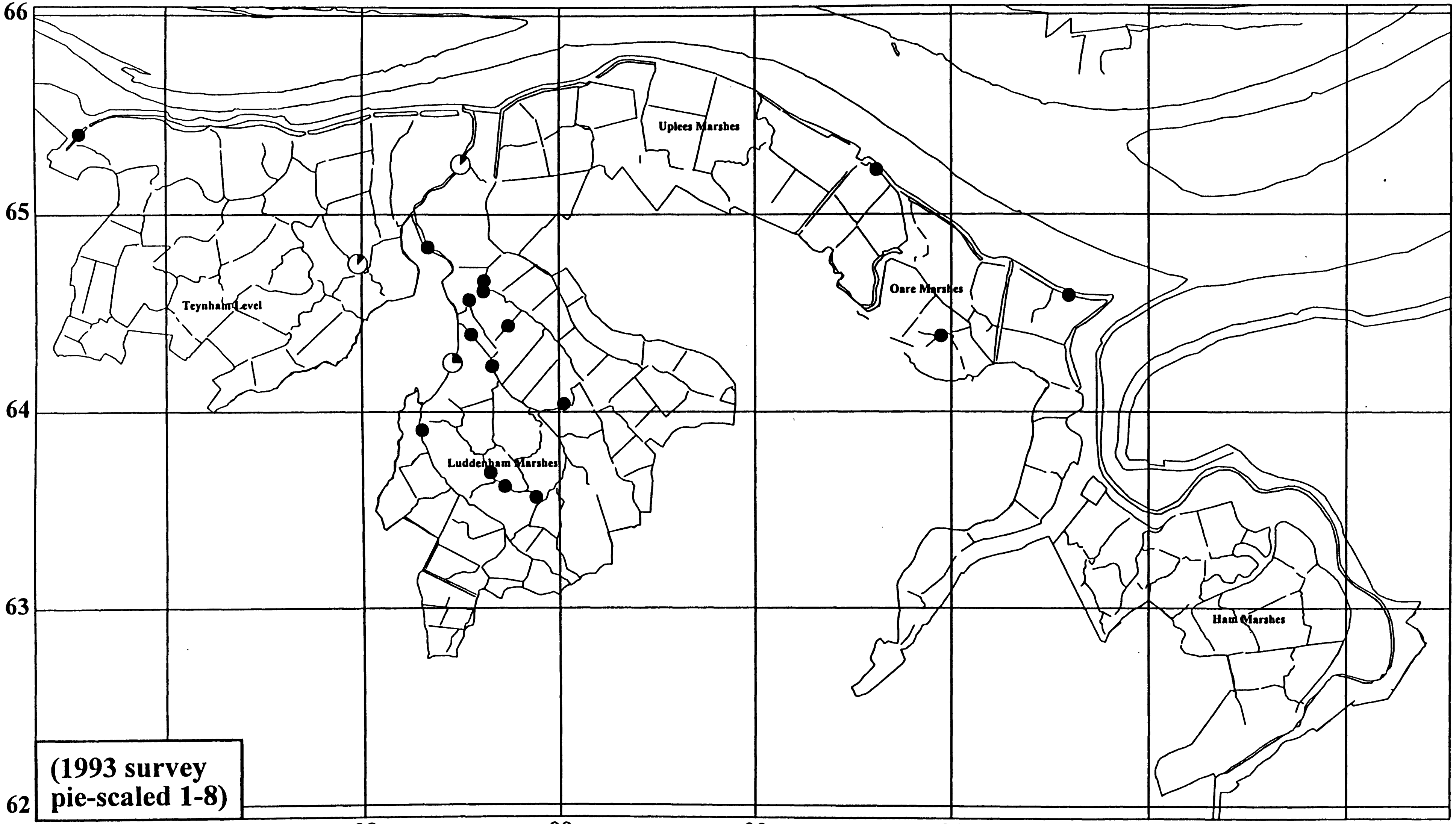
Oenanthe fistulosa



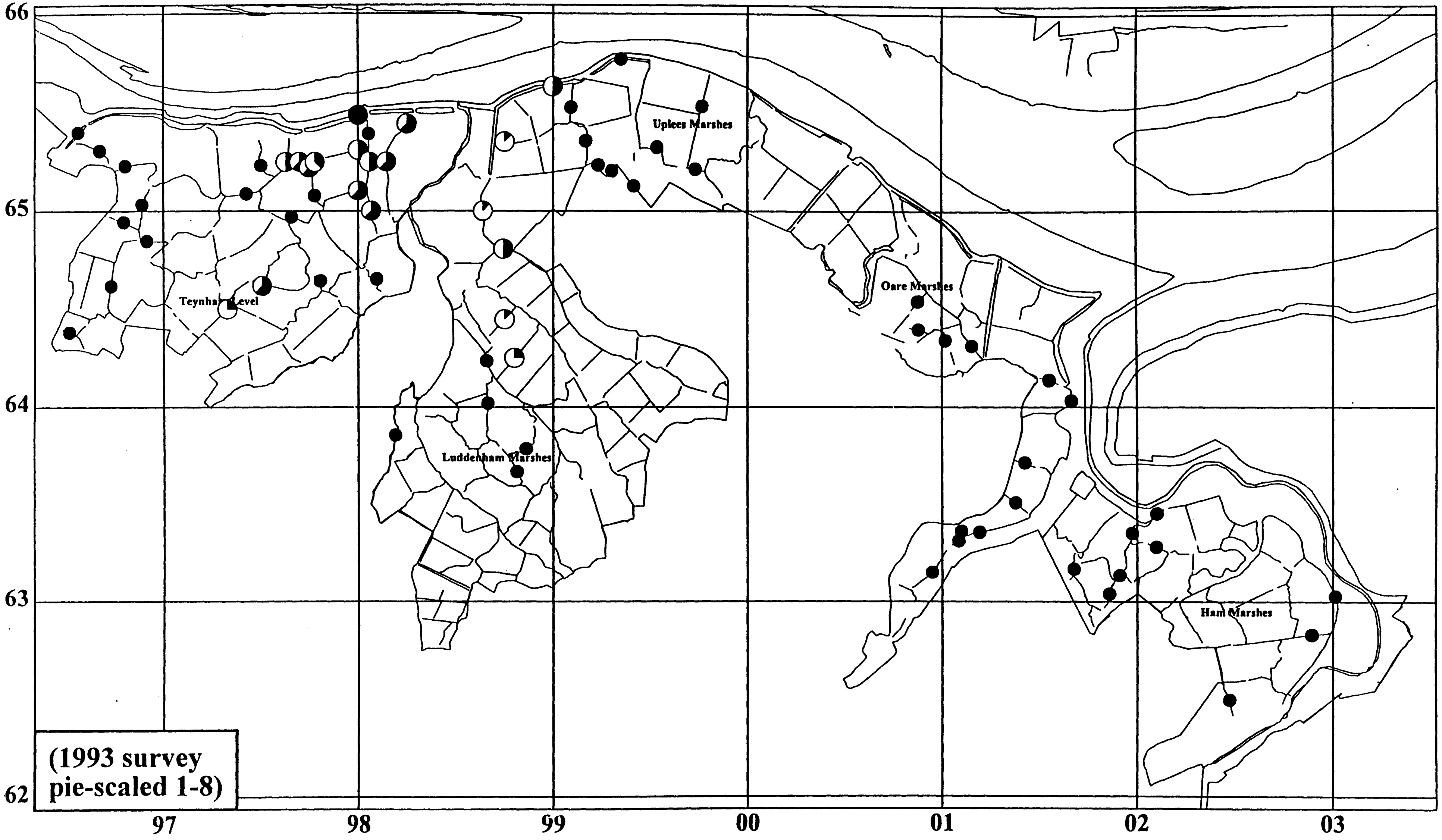
Phragmites australis



Rumex hydrolapathum

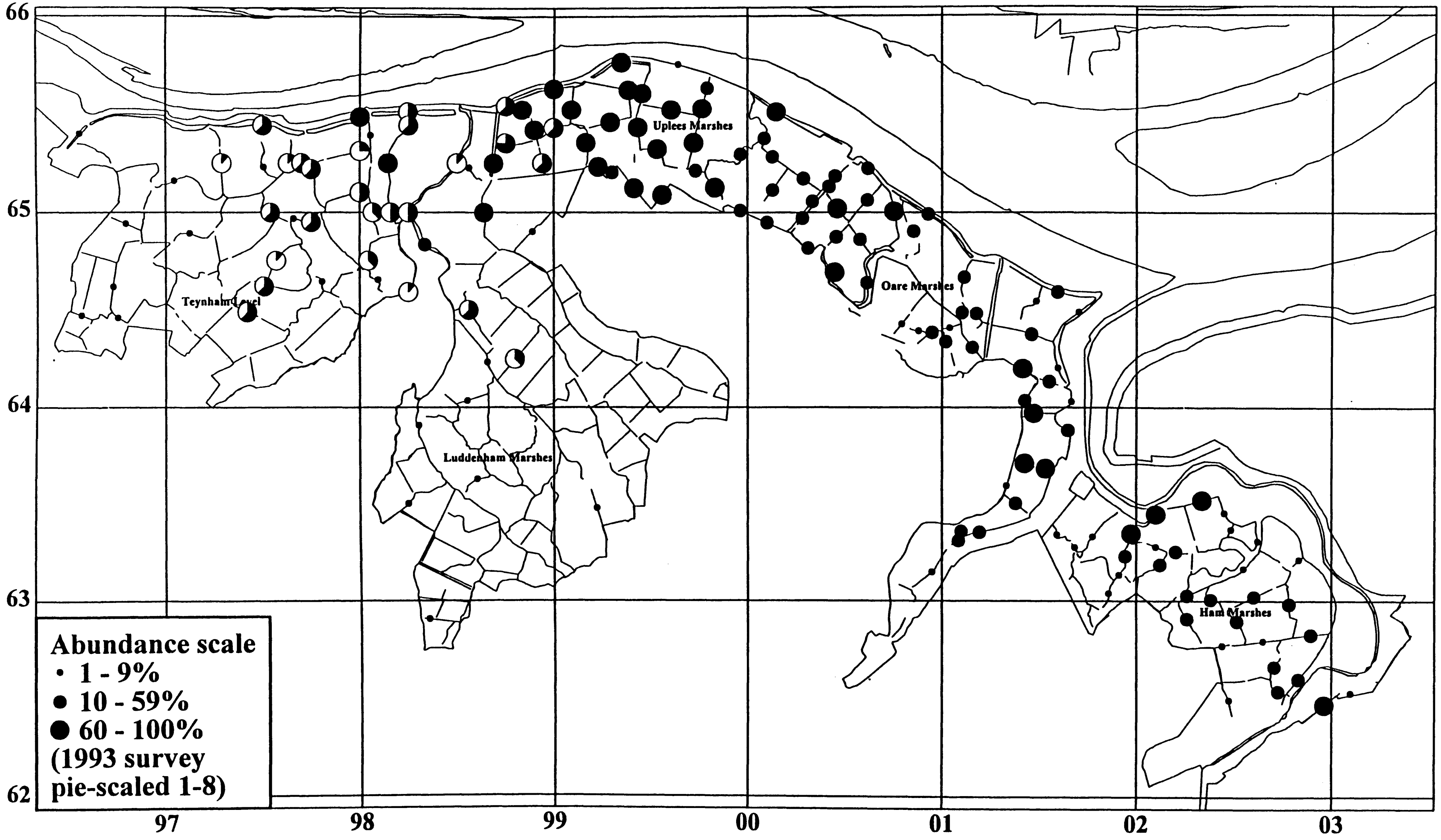


Scirpus lacustris

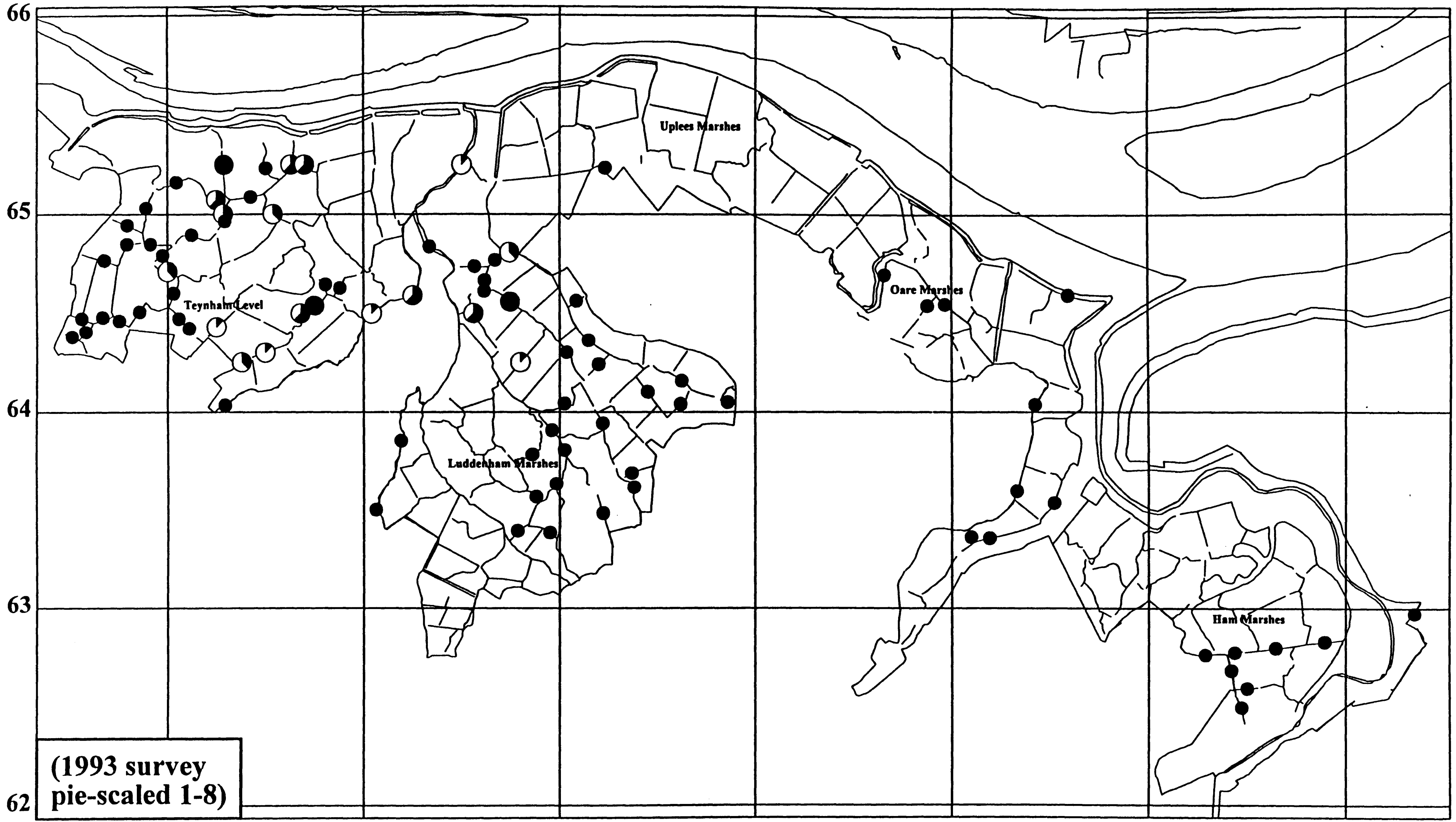


(1993 survey
pie-scaled 1-8)

Scirpus maritimus

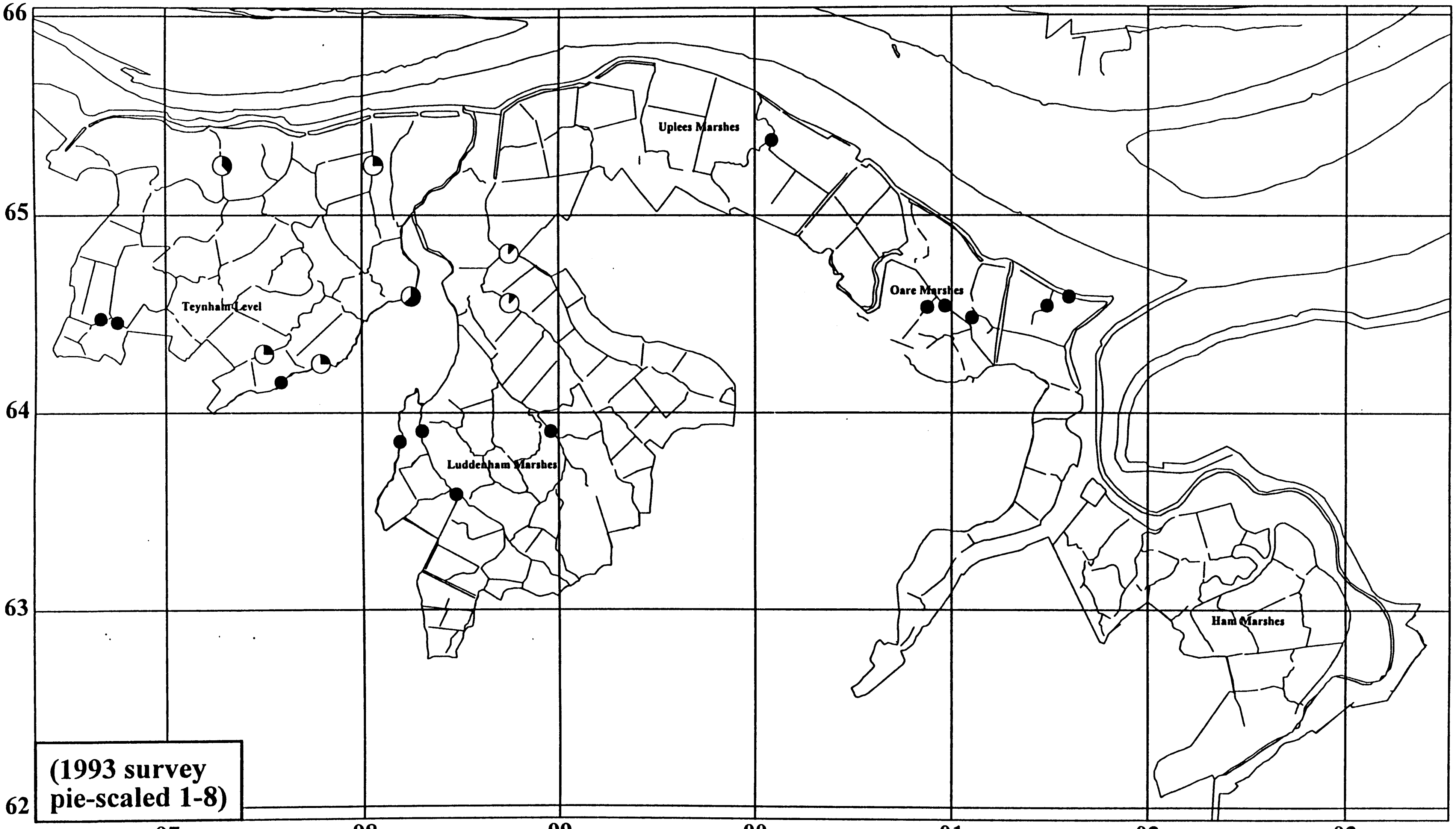


Sparganium erectum

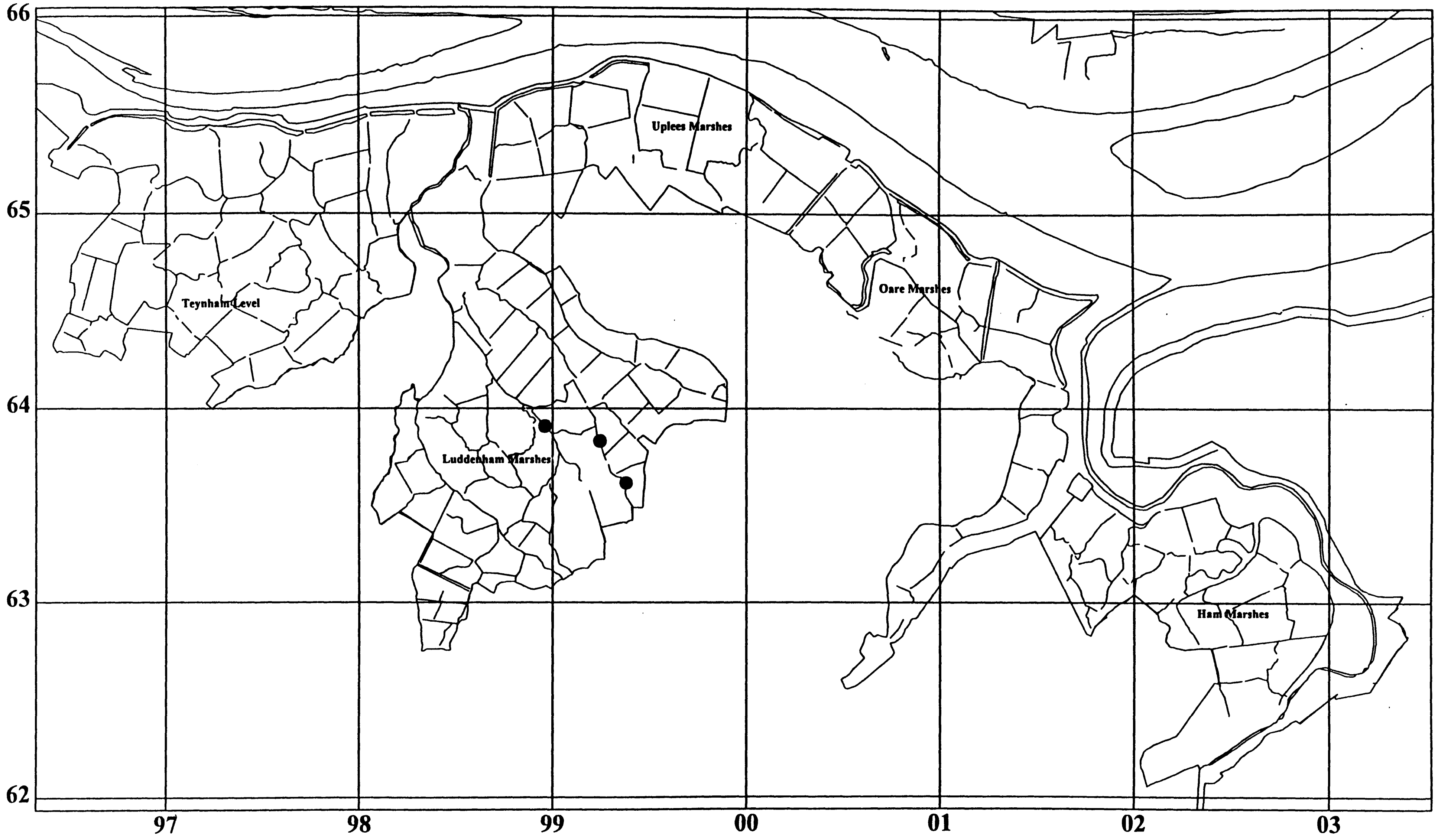


(1993 survey
pie-scaled 1-8)

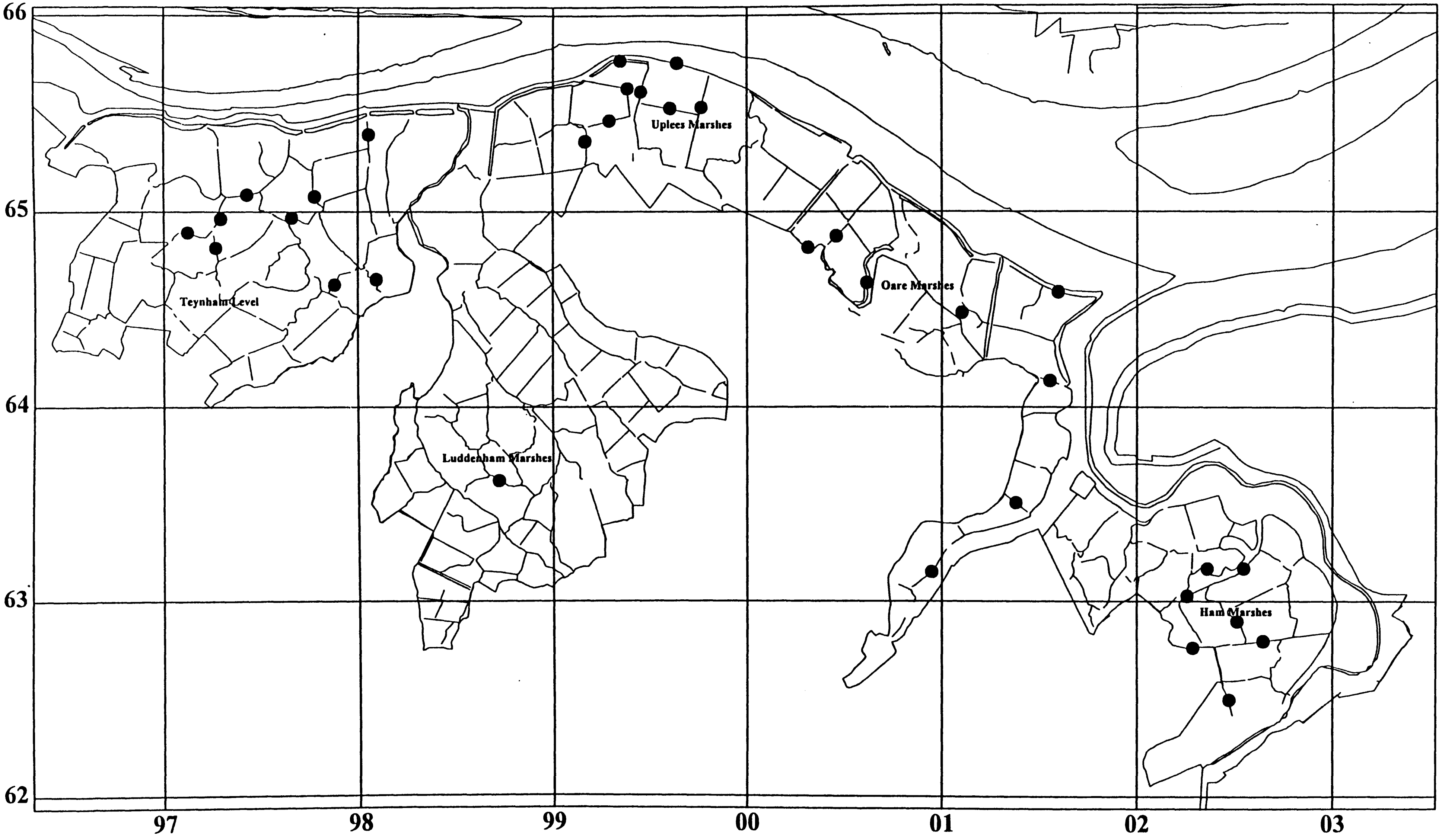
Veronica catenata



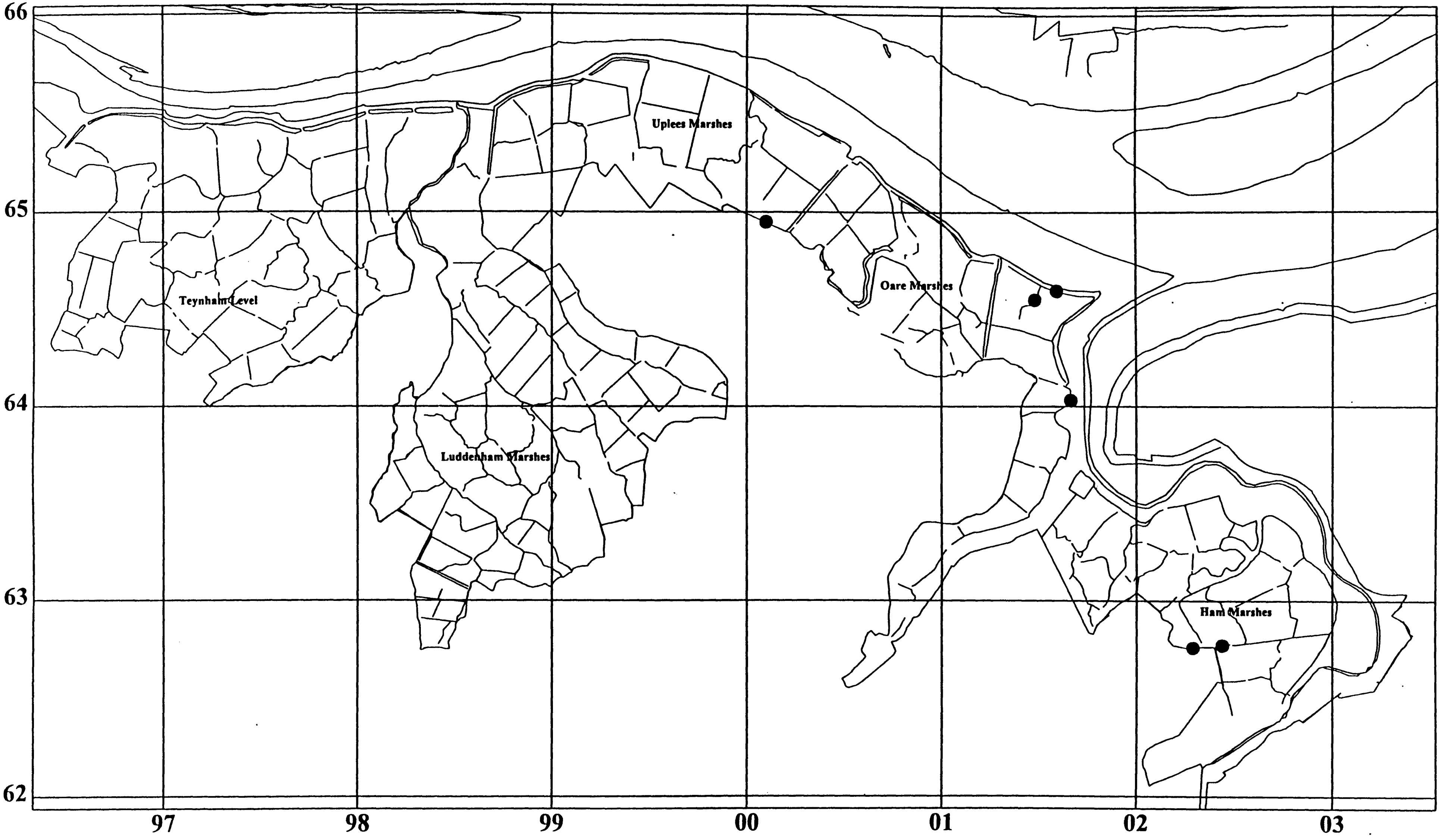
Veronica scutellata



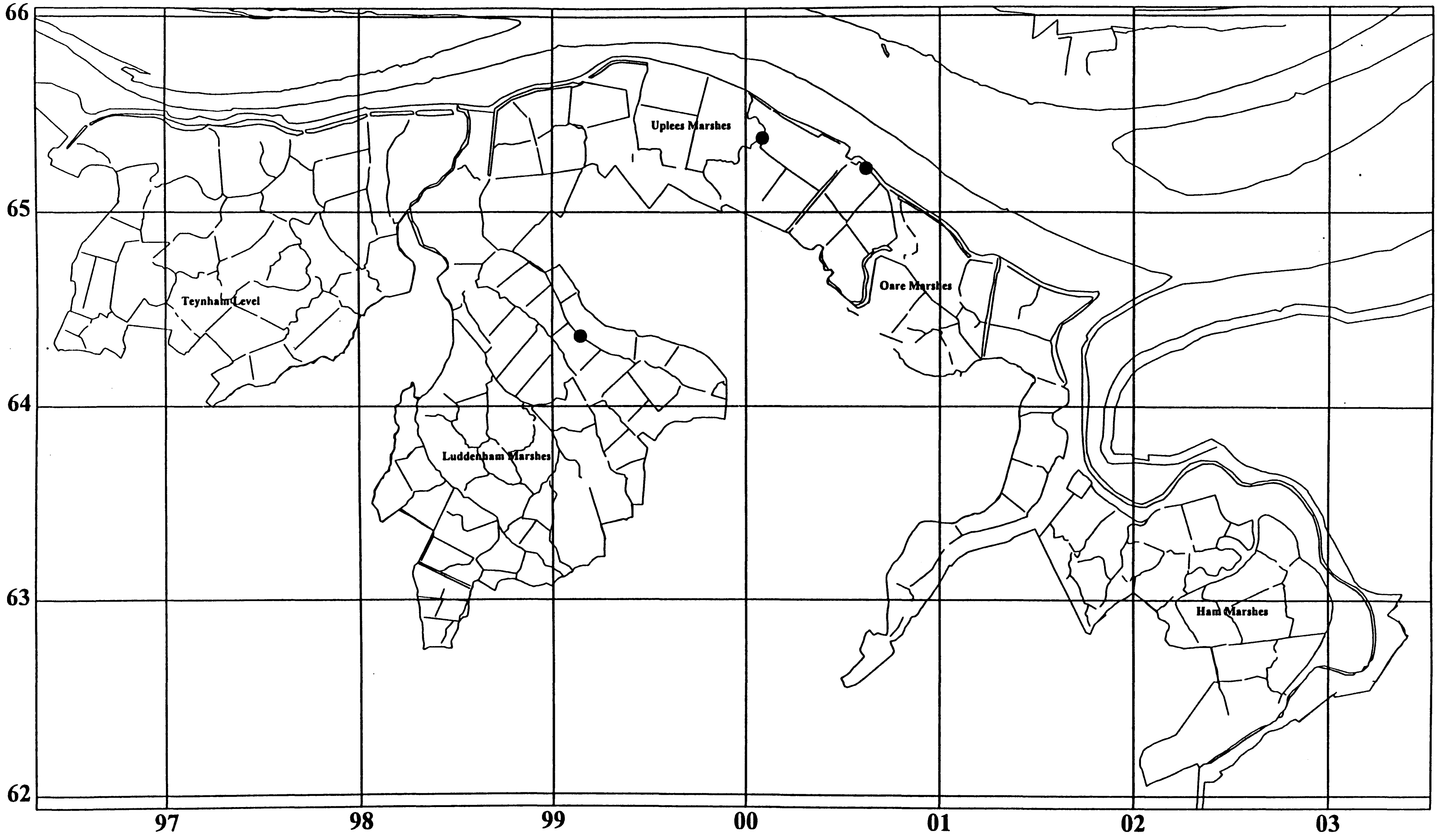
Carex divisa



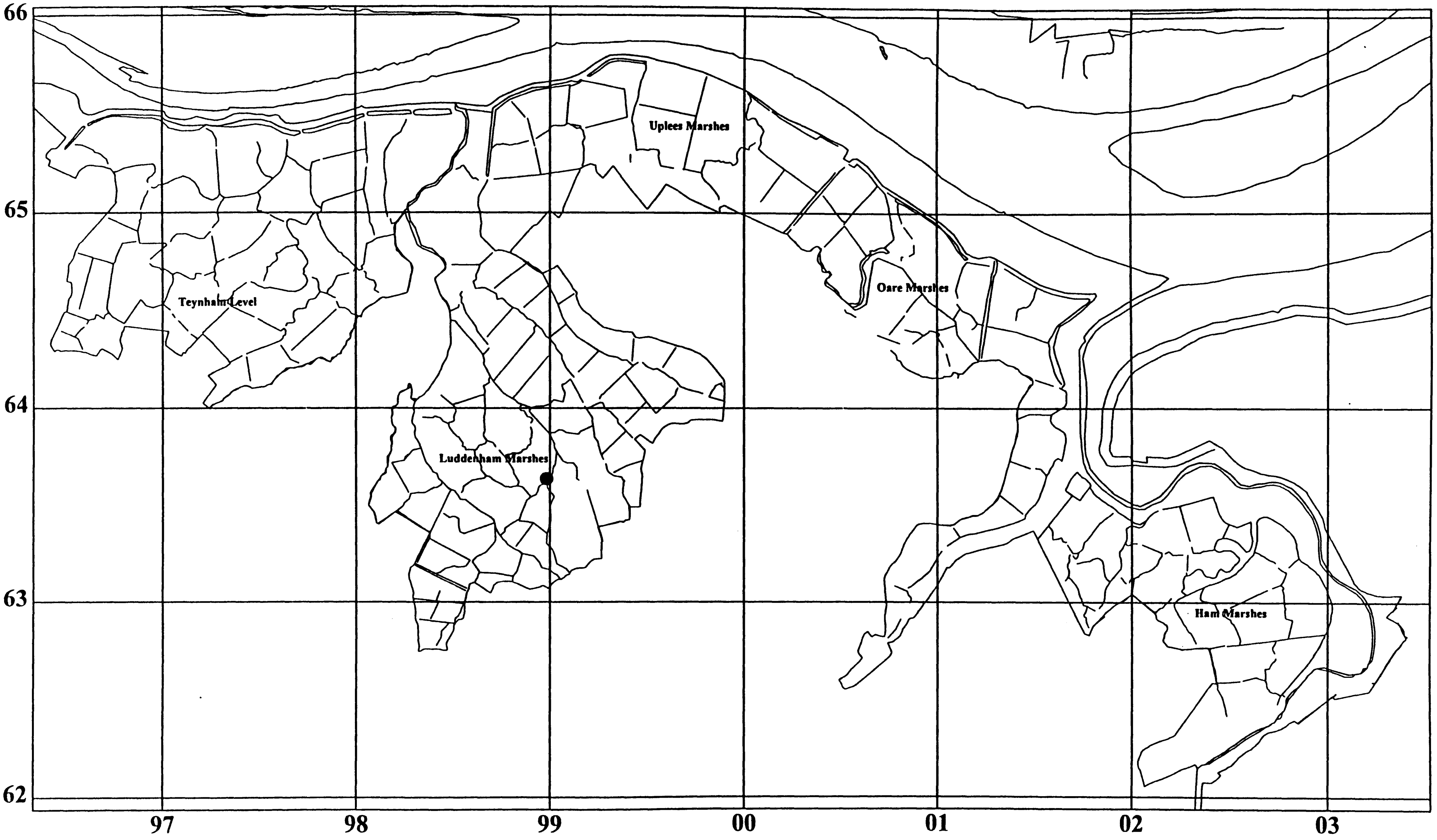
Carex distans



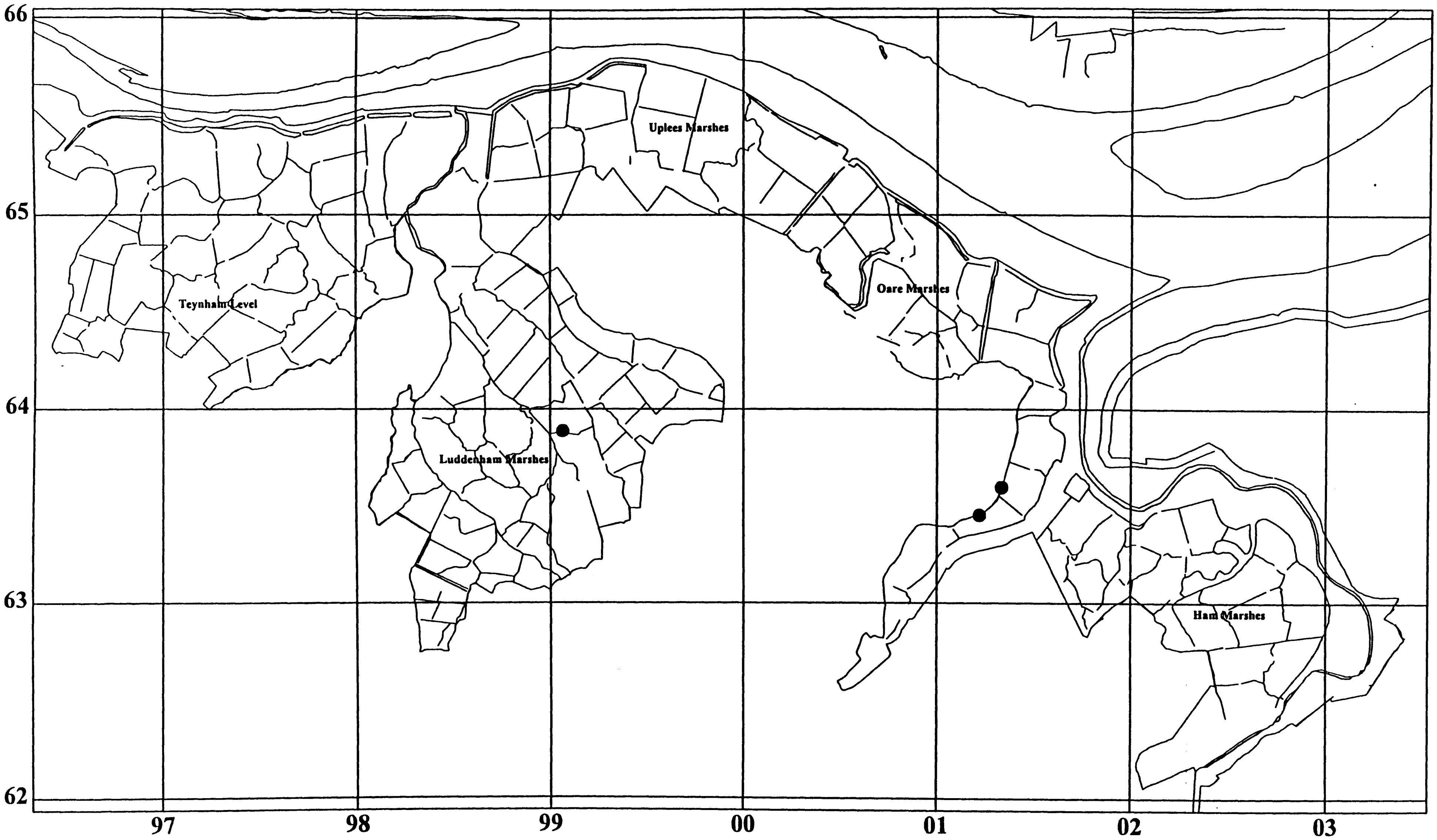
Chenopodium chenopodioides



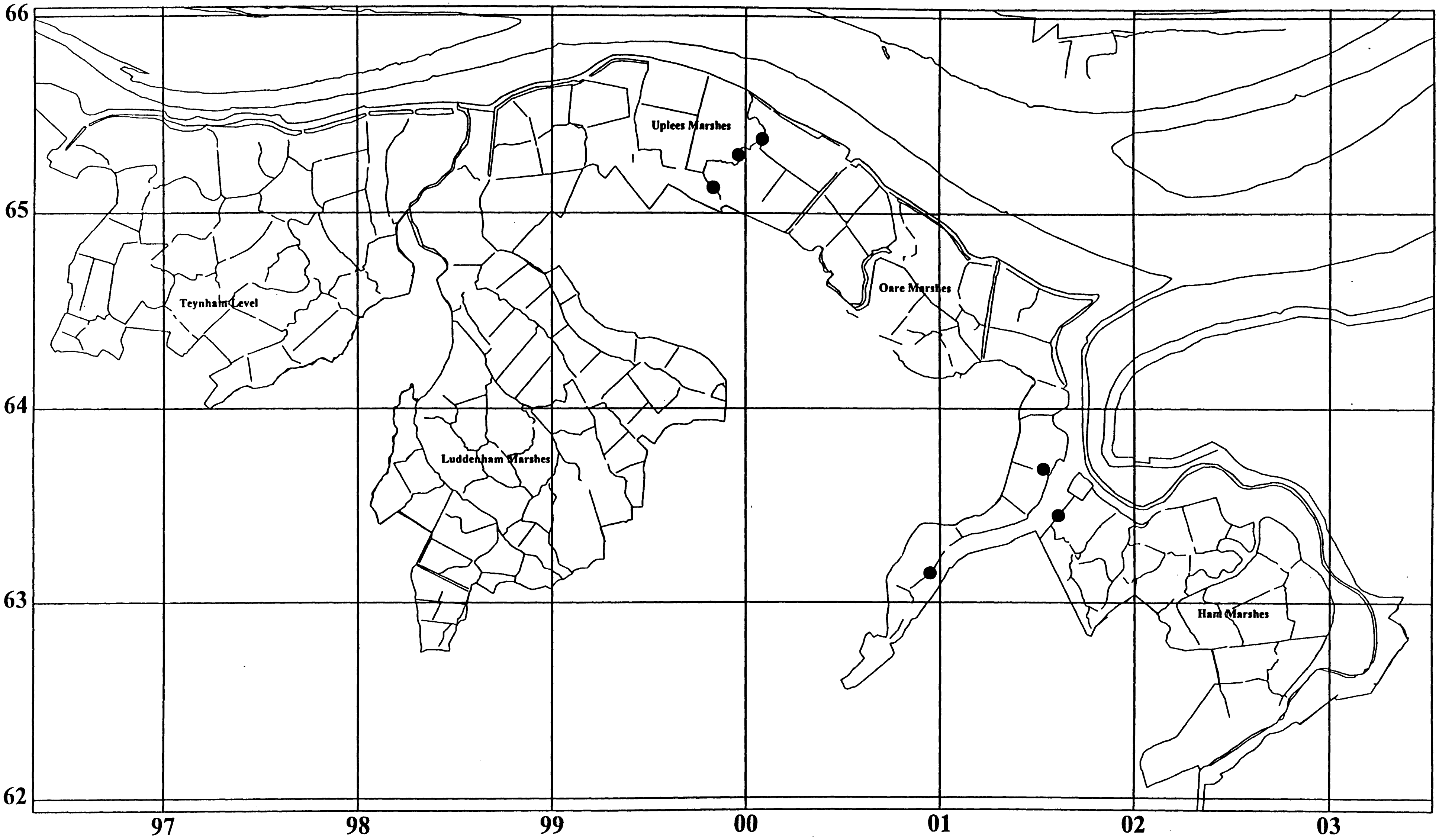
Crassula helmsii



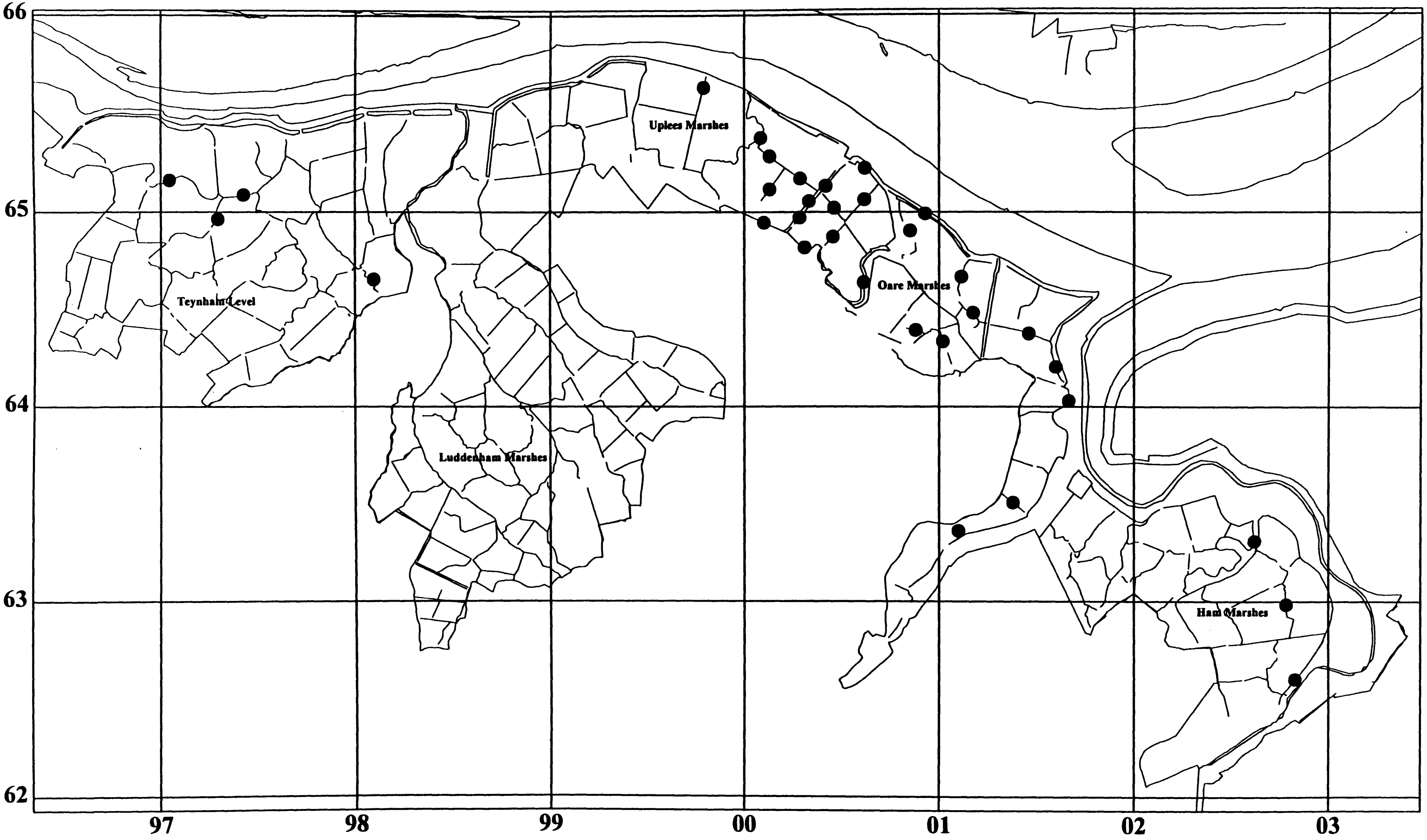
Samolus valerandi



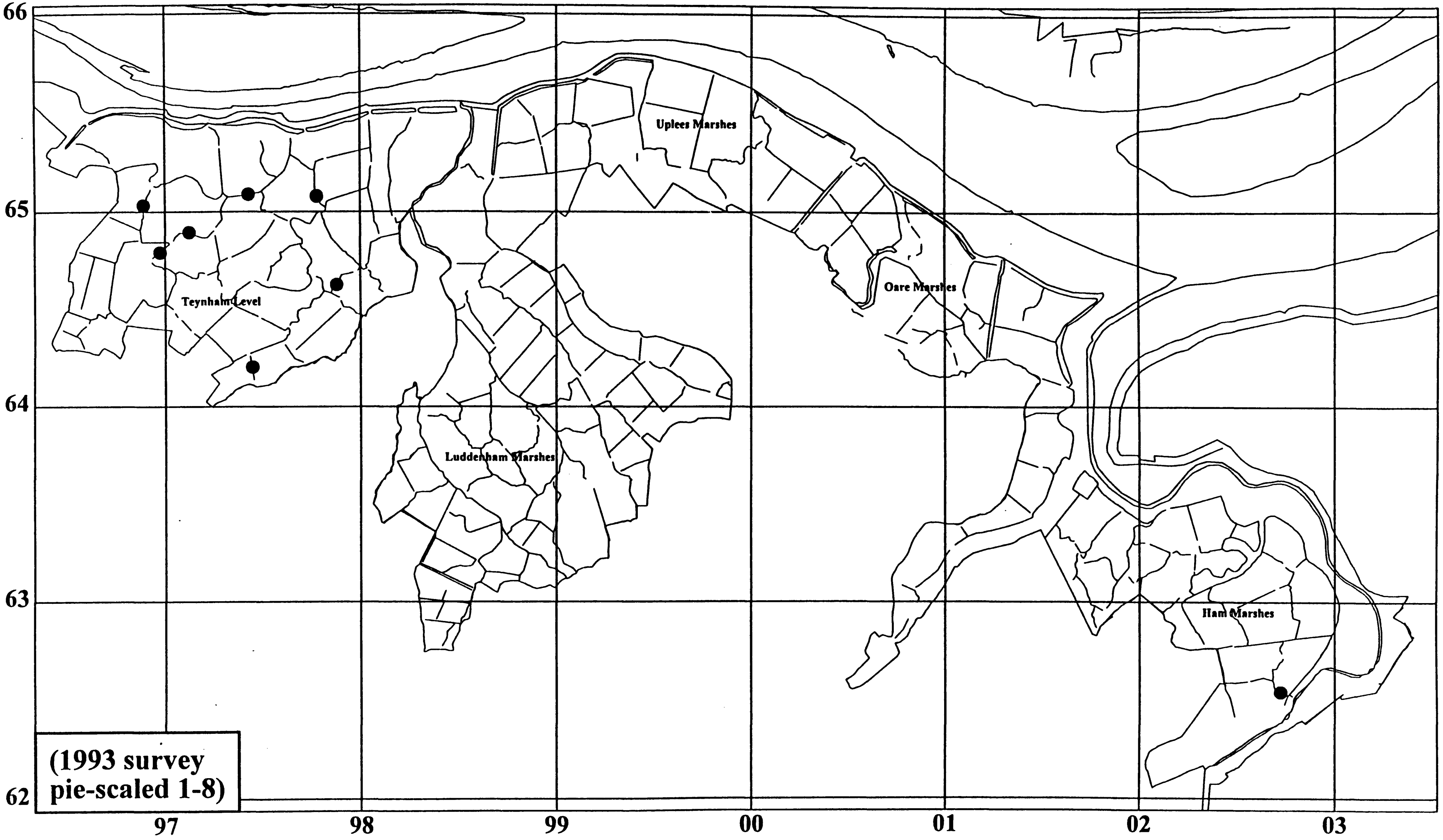
Juncus maritima



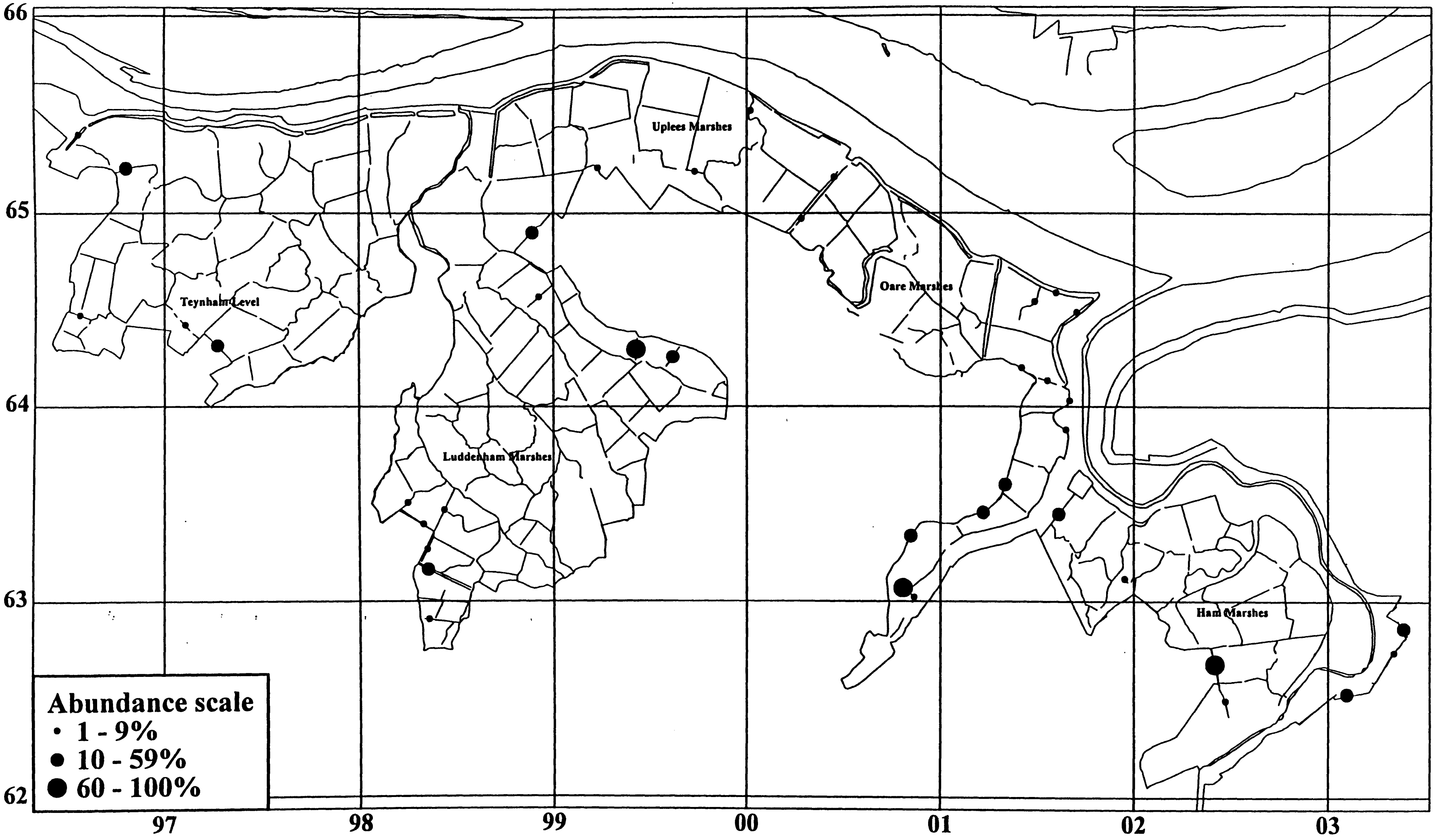
Juncus gerardii



Triglochin palustre



Scrub cover


66
65
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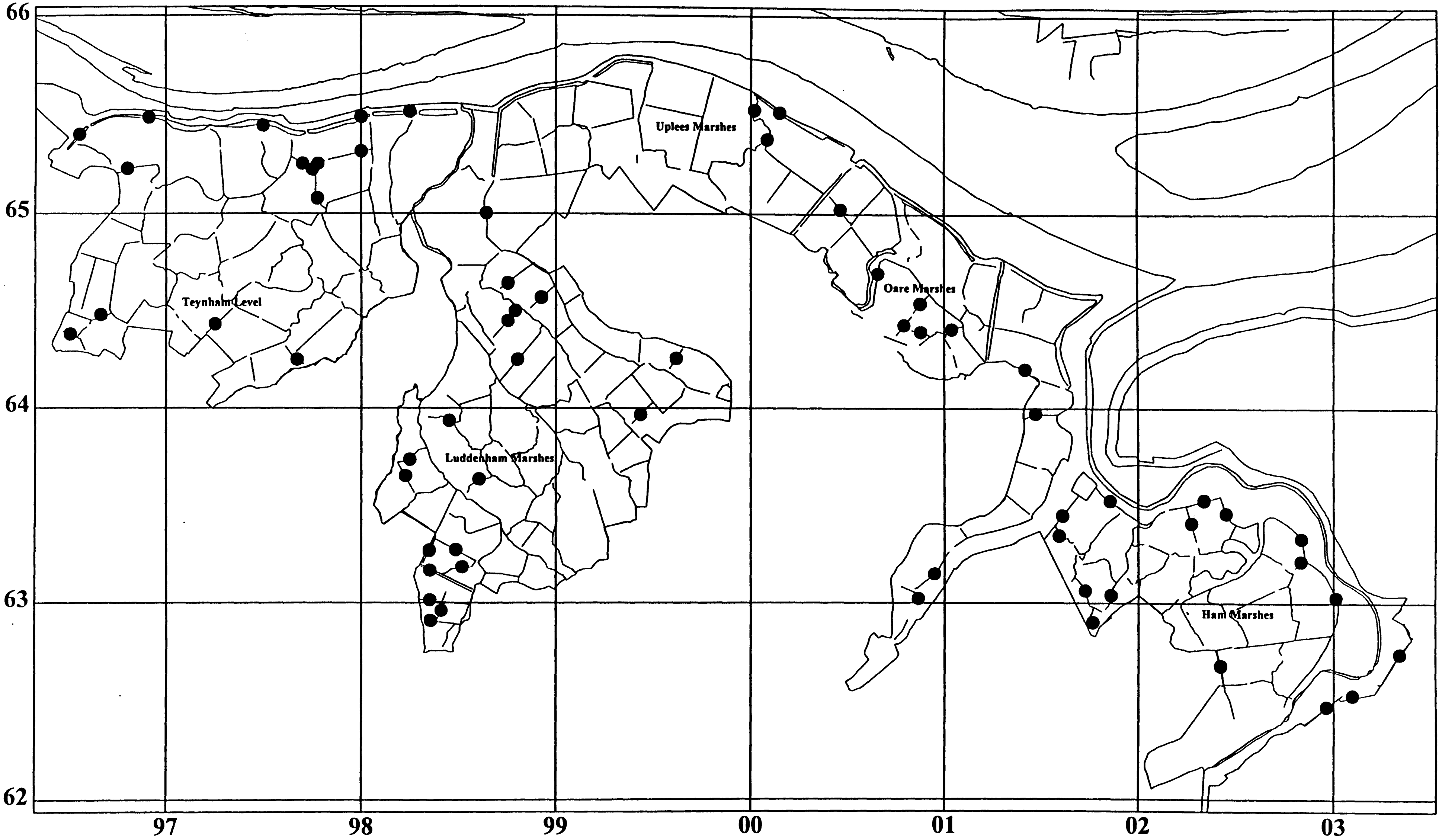
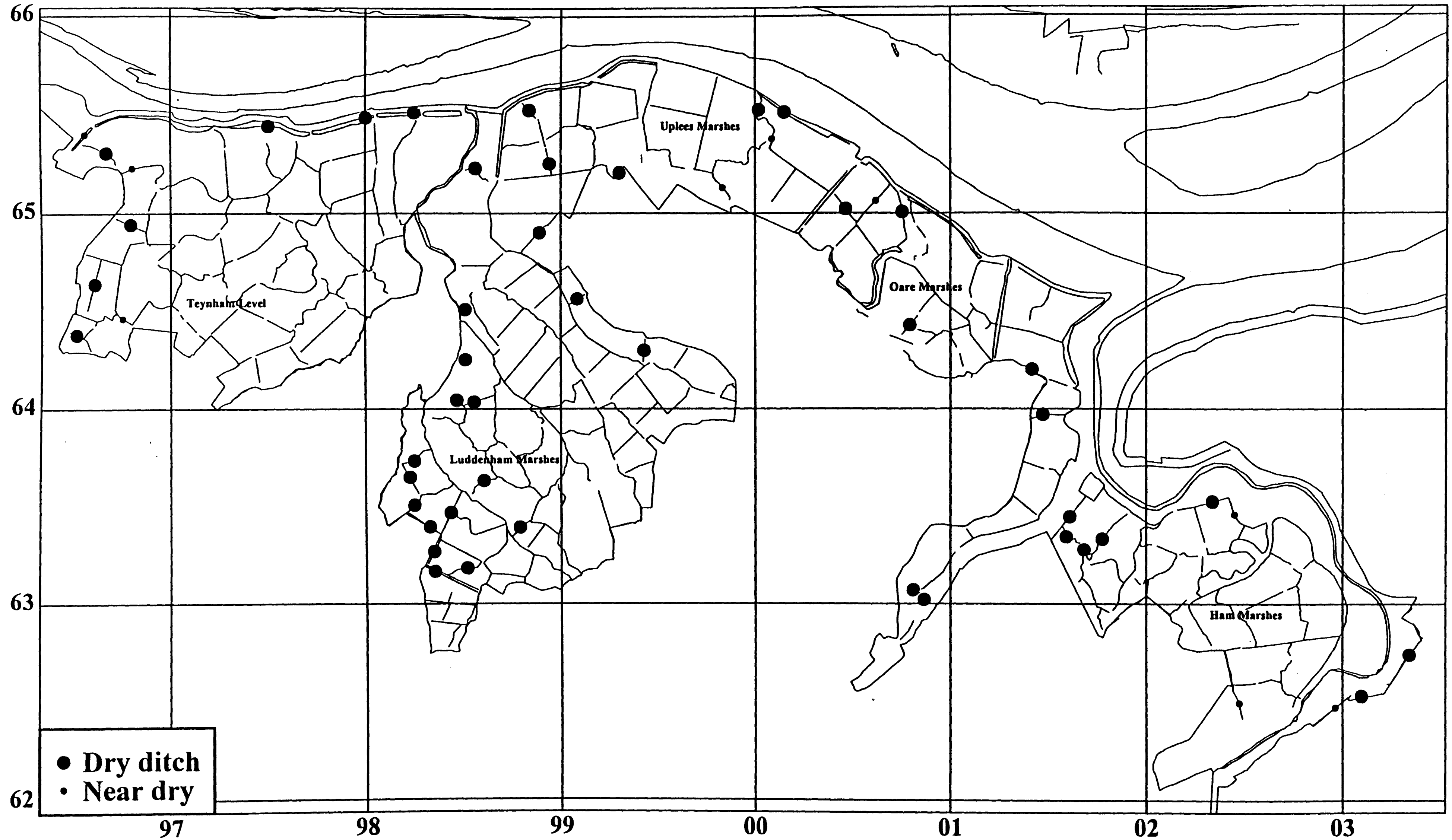
01
02
03
Uplees Marshes
Teynham Level
Oare Marshes
Luddenham Marshes
Ham Marshes
Abundance scale
• 1 - 9%
● 10 - 59%
● 60 - 100%

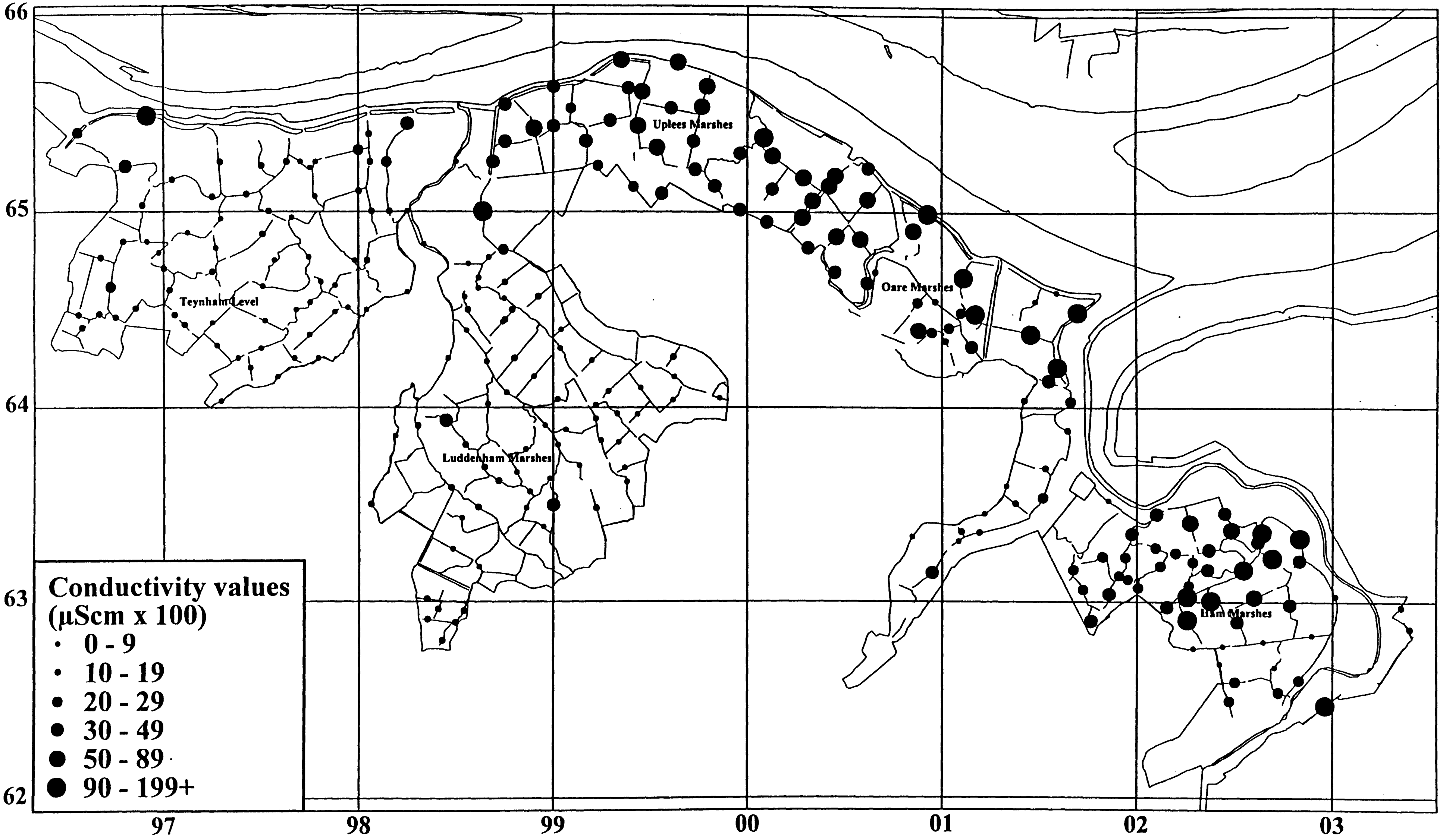
Ditch choked



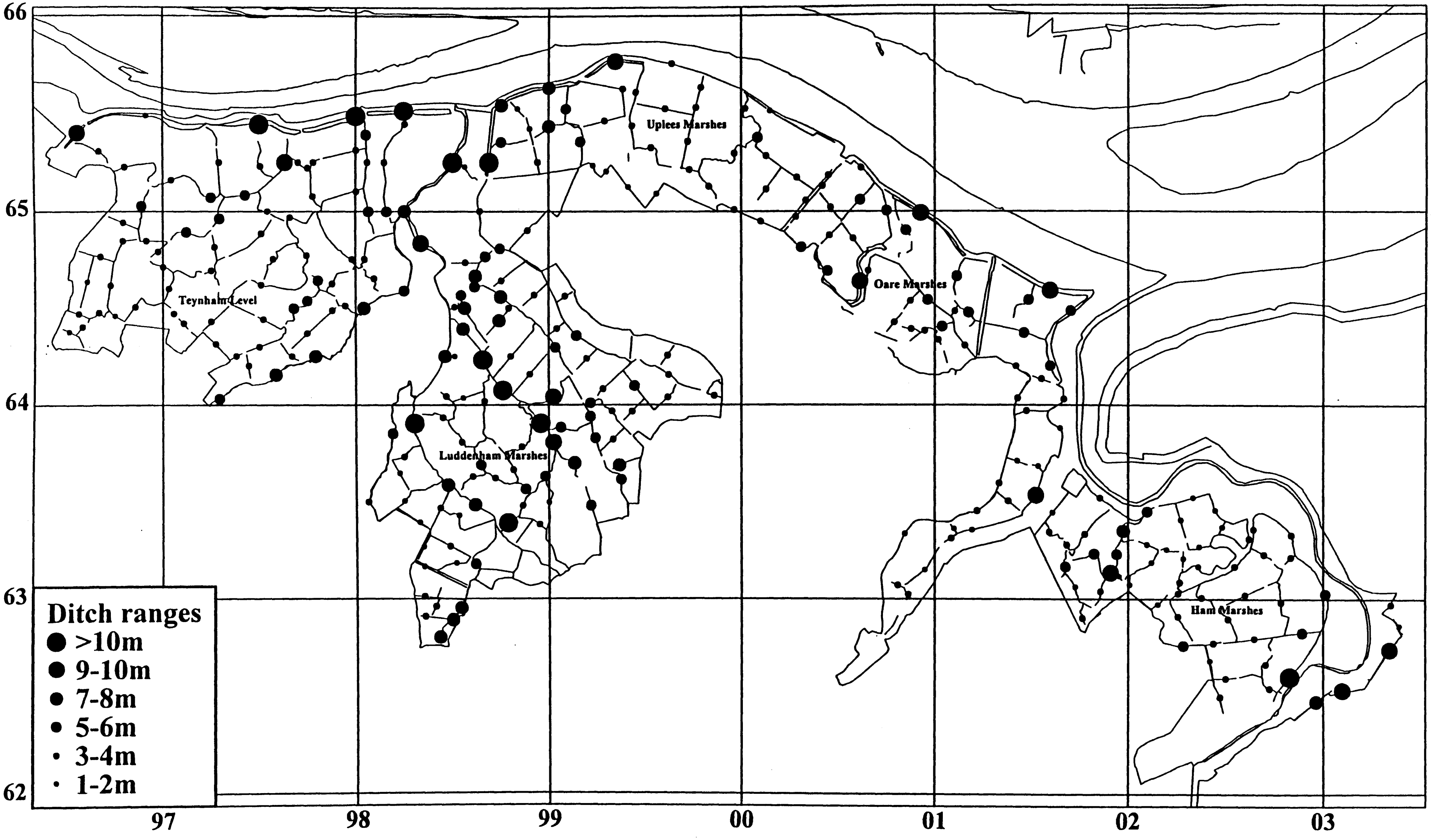
Ditch dry


66
65
64
63
62
97
98
99
00
01
02
03
Teynham Level
Uplees Marshes
Luddenham Marshes
Oare Marshes
Ham Marshes
● Dry ditch
• Near dry

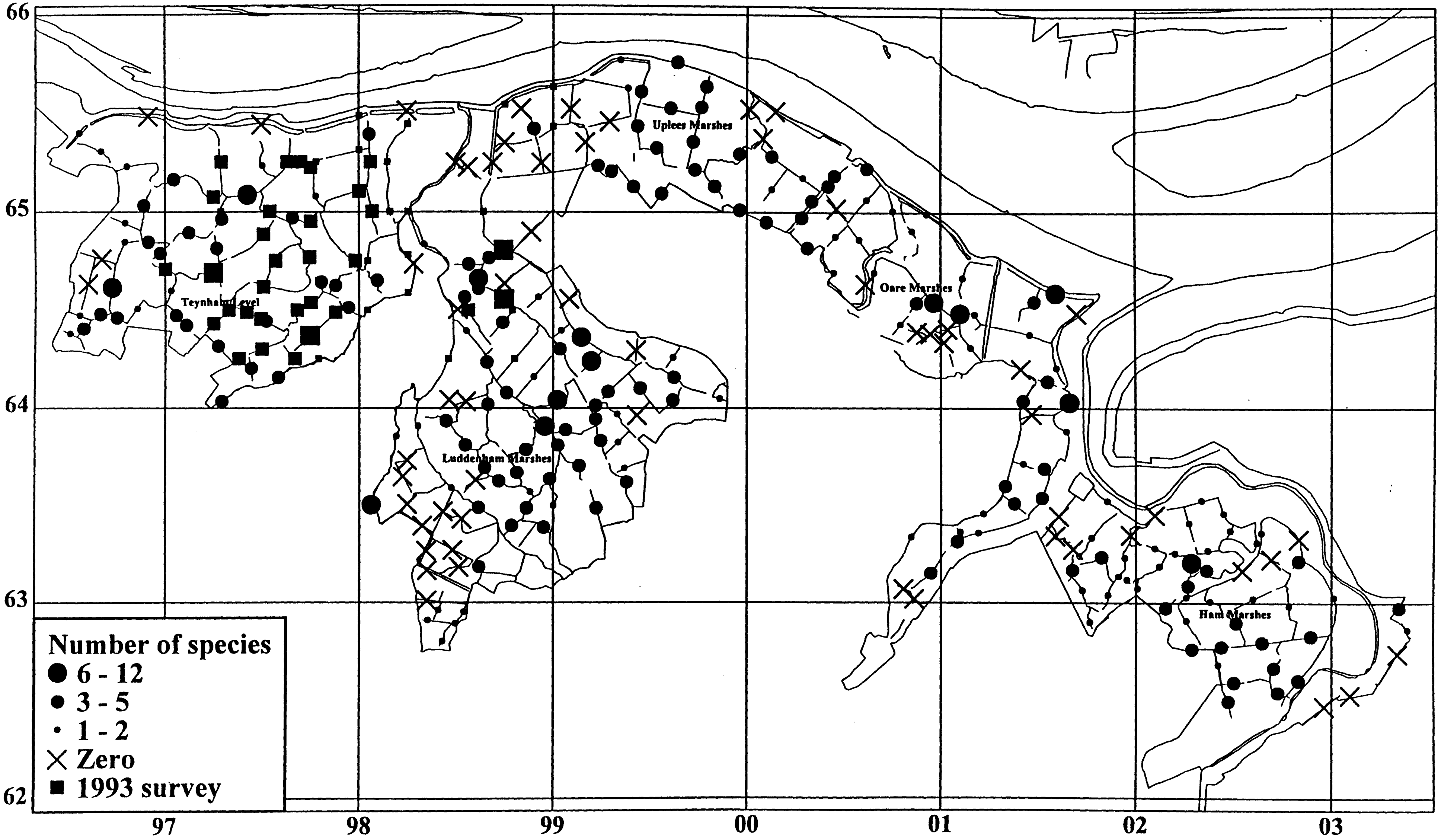
Conductivity values



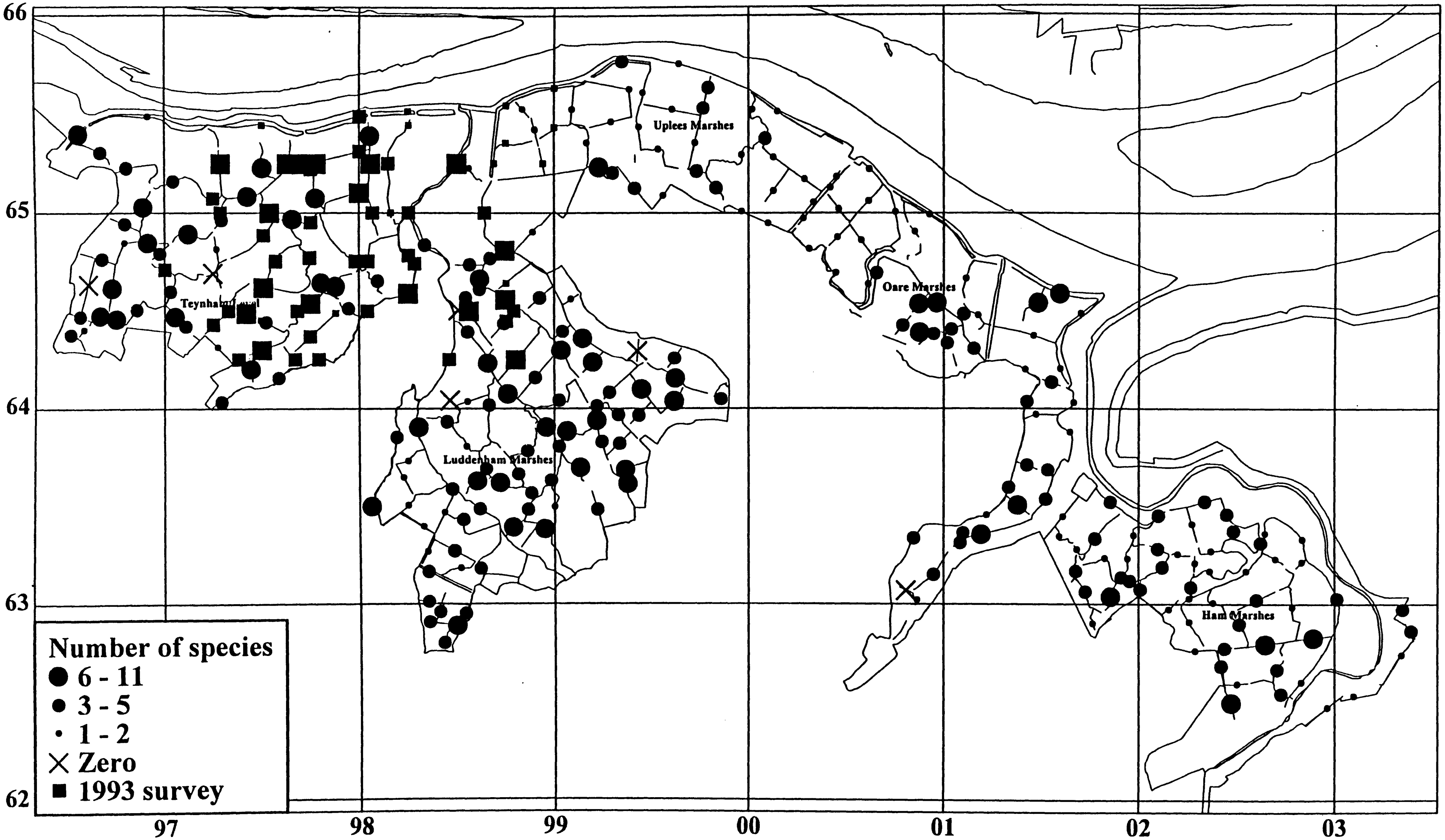
Ditch widths



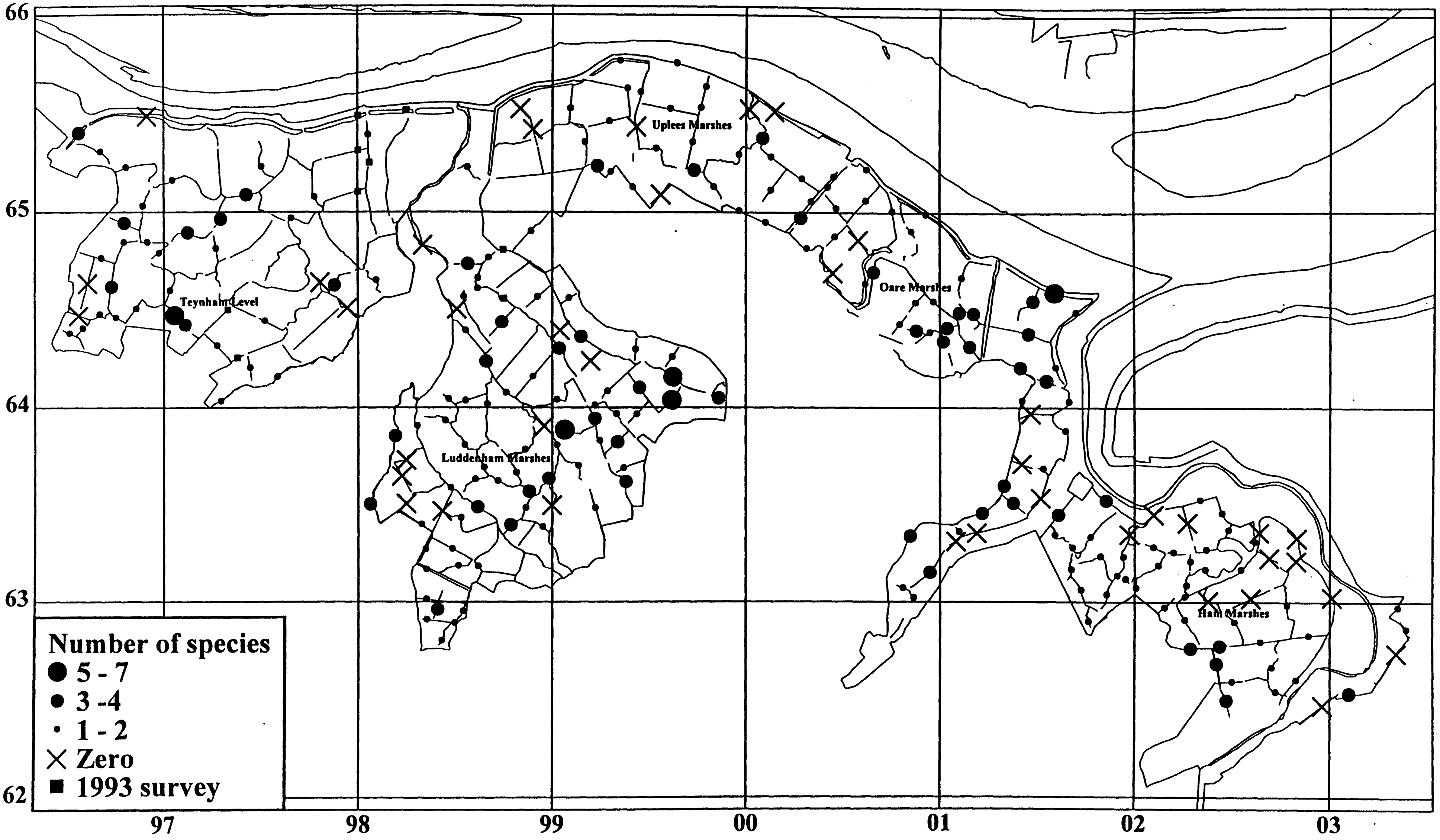
Number of aquatic species



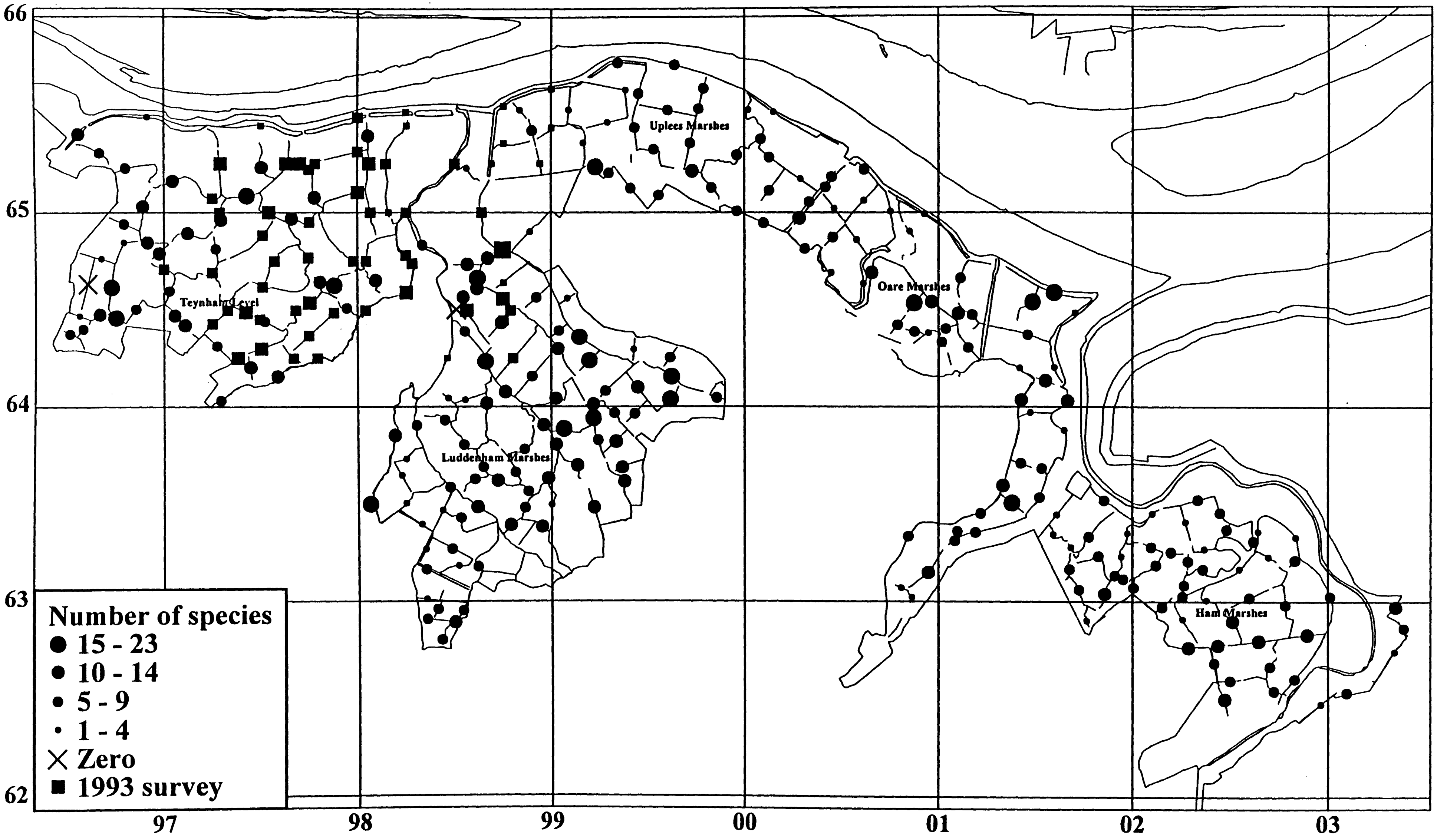
Number of emergent species



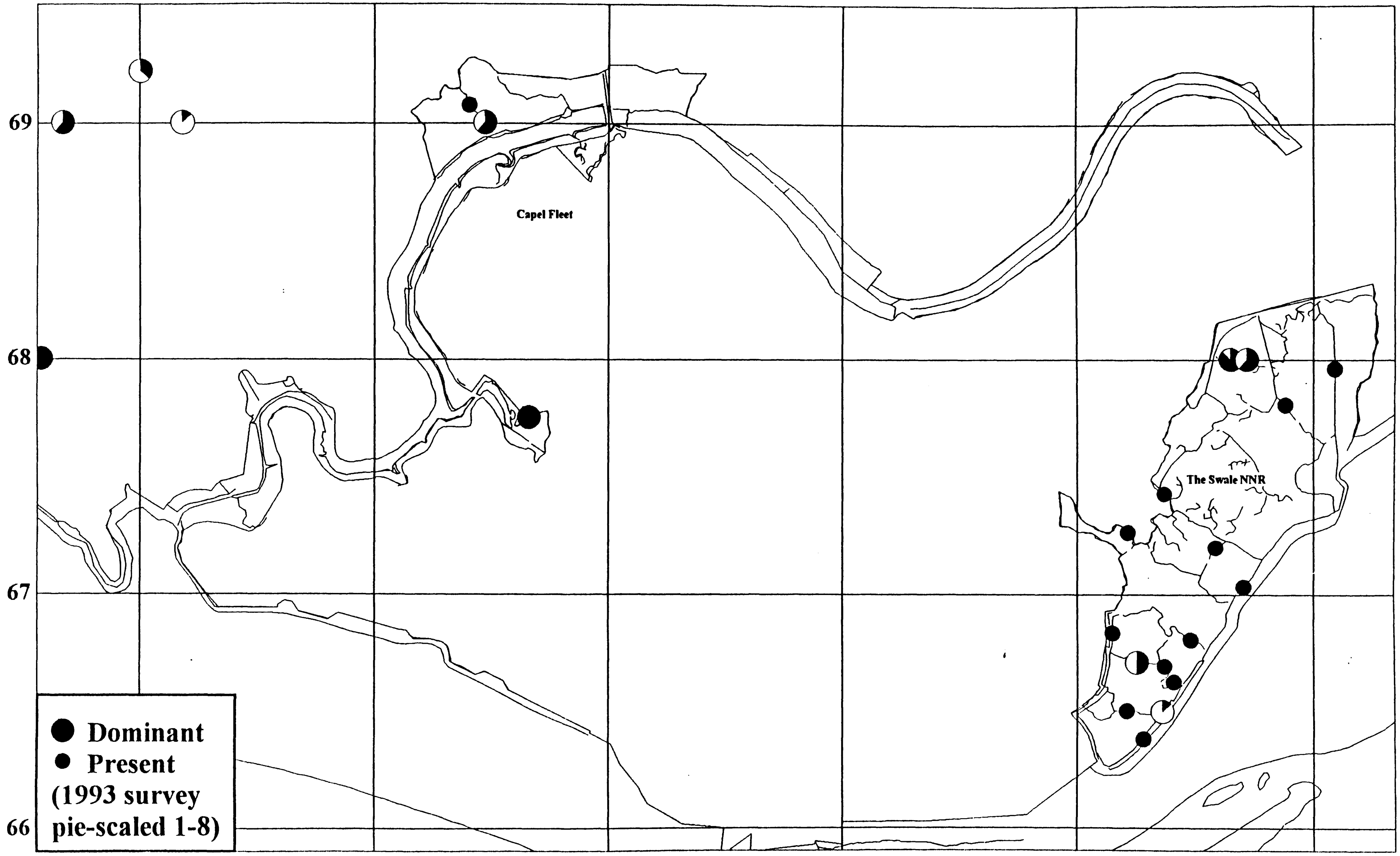
Number of bank species



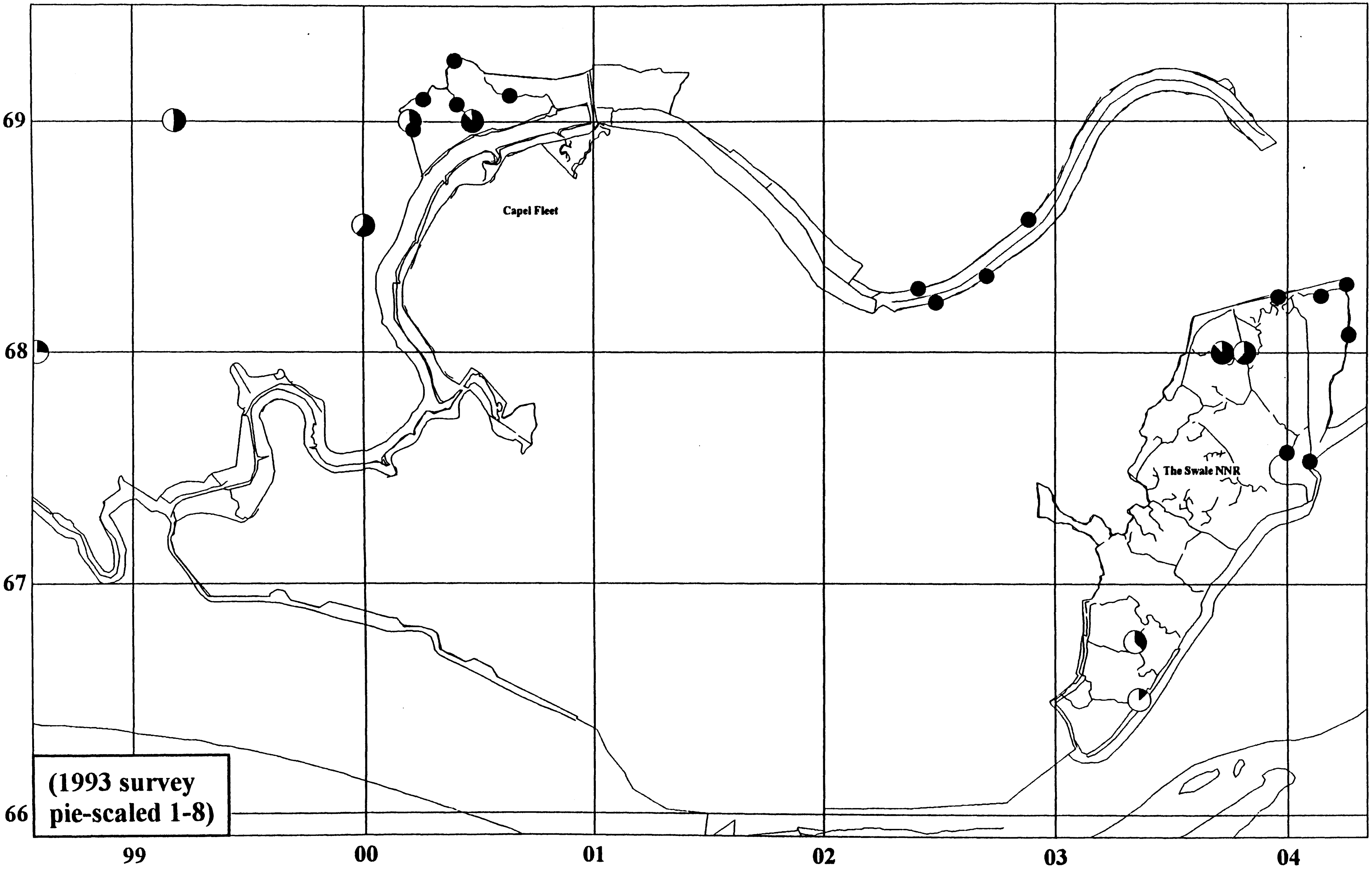
Total number of species



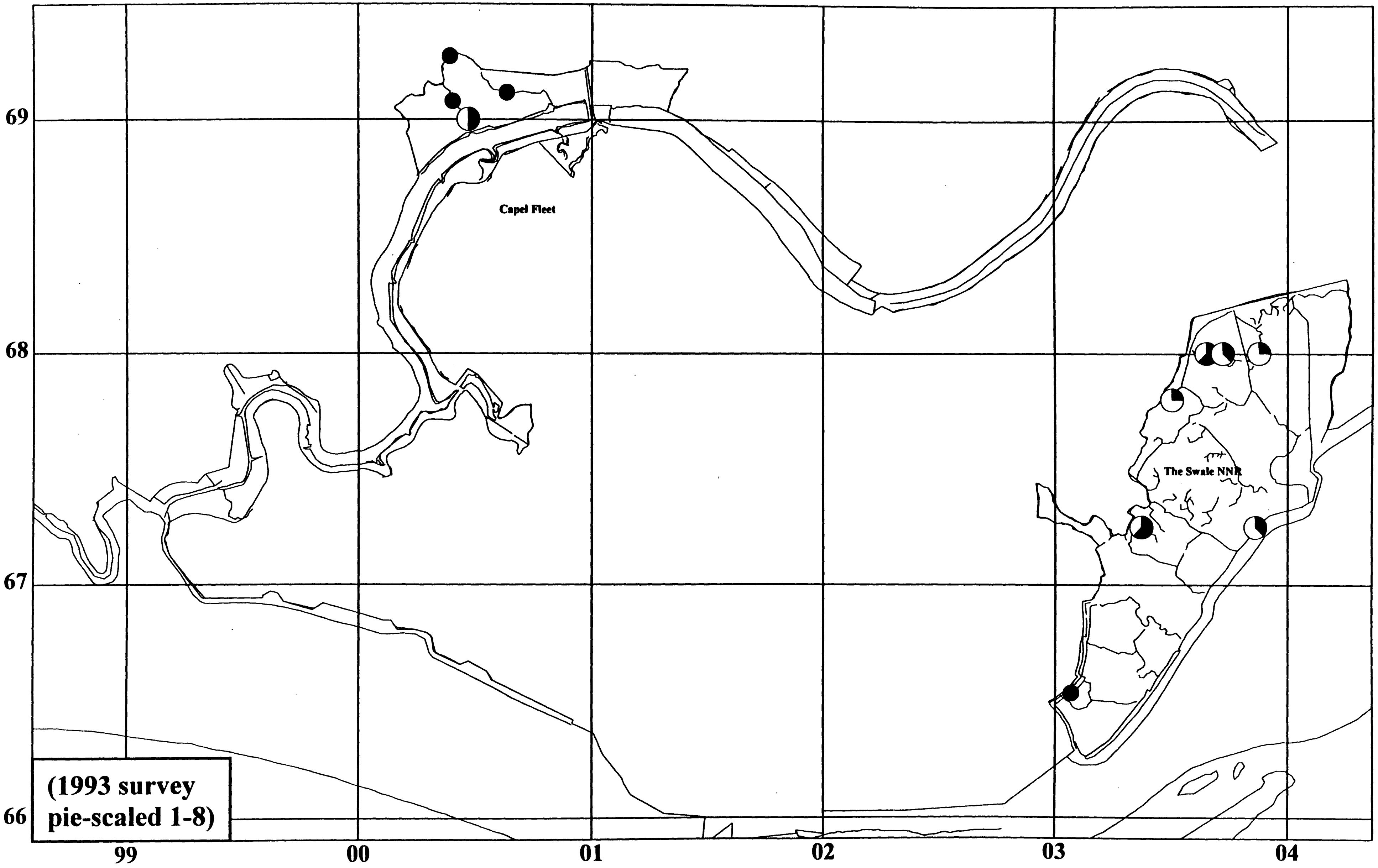
Ceratophyllum submersum



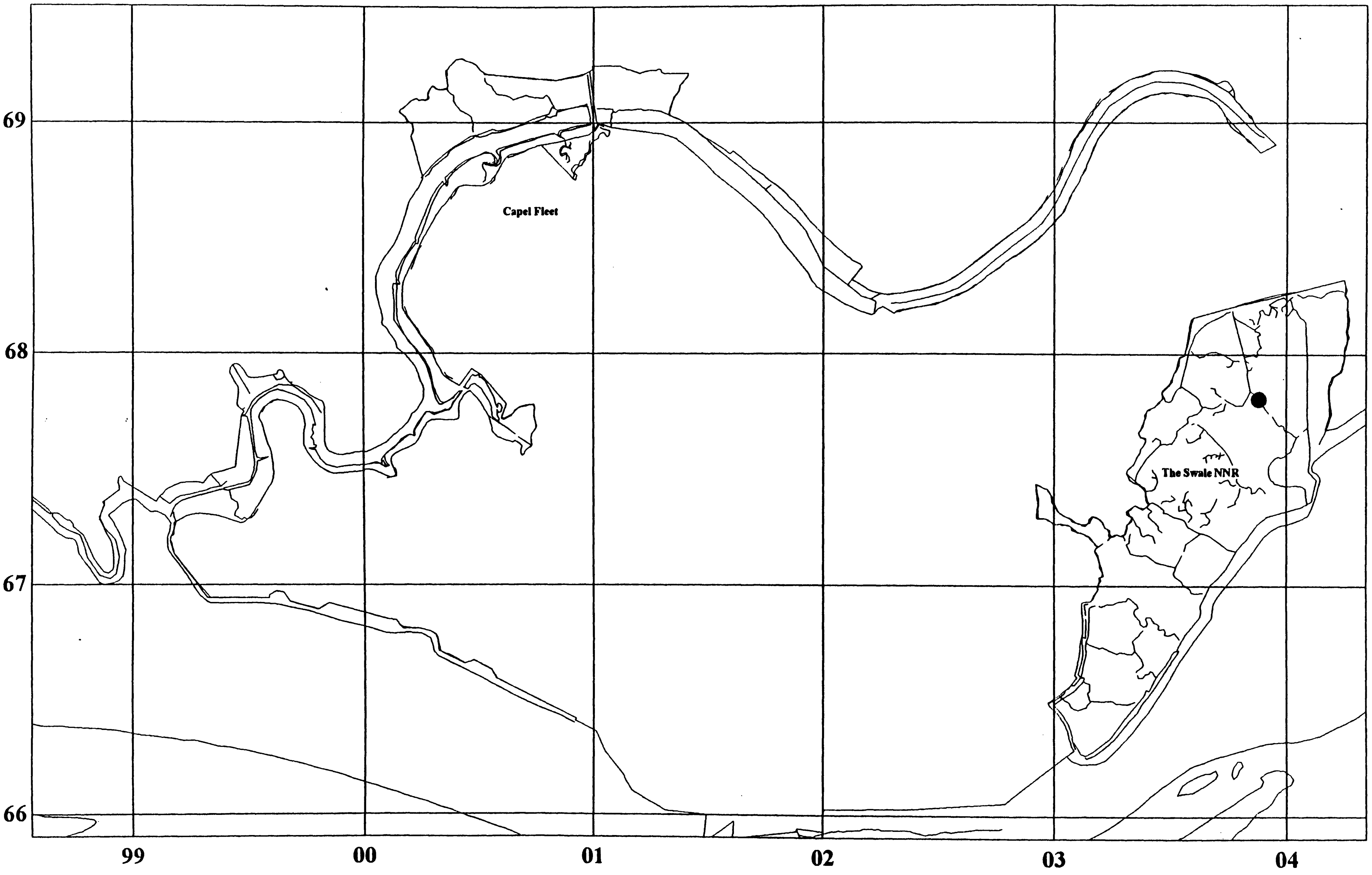
Potamogeton pectinatus



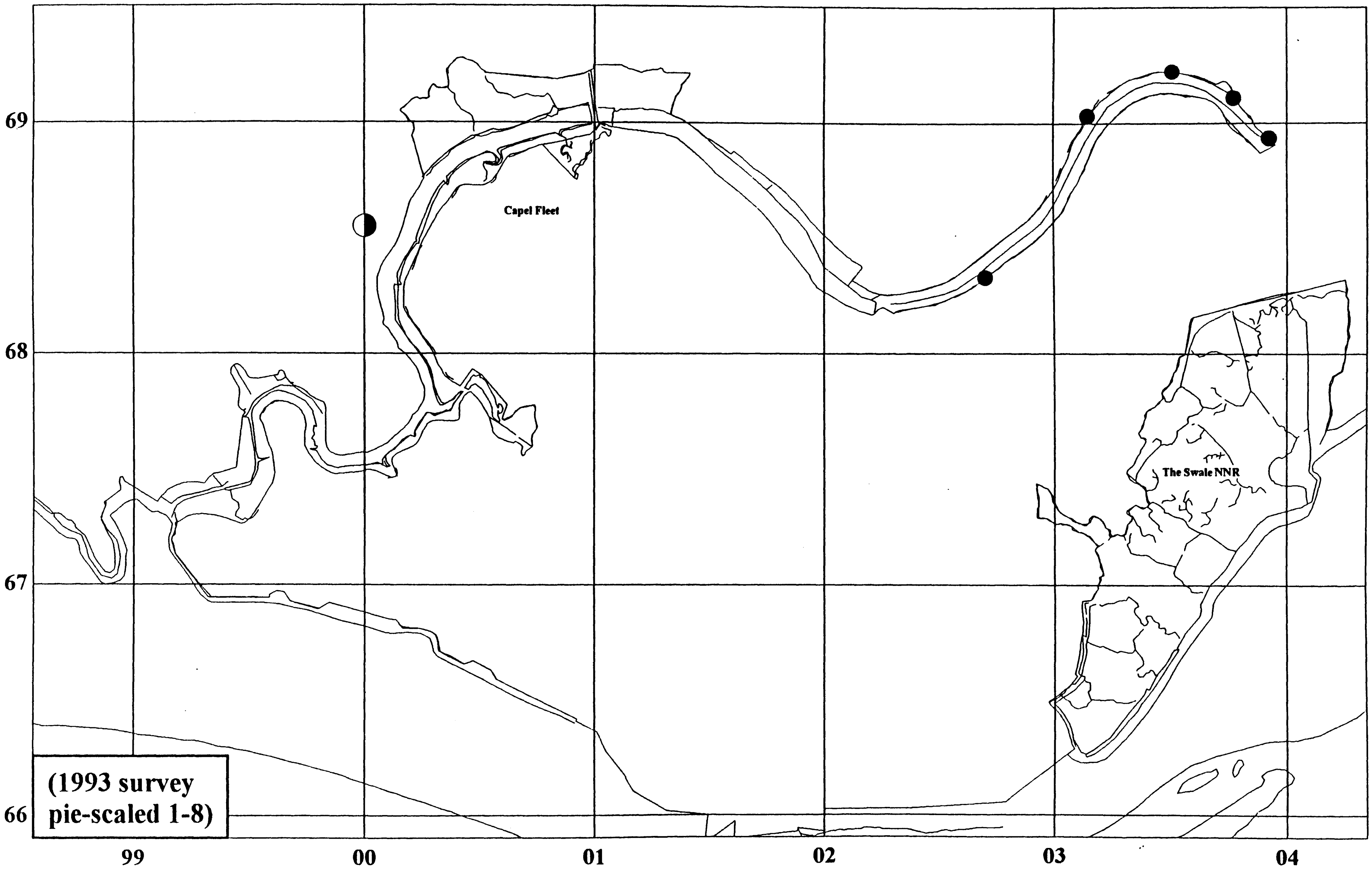
Ranunculus baudotii



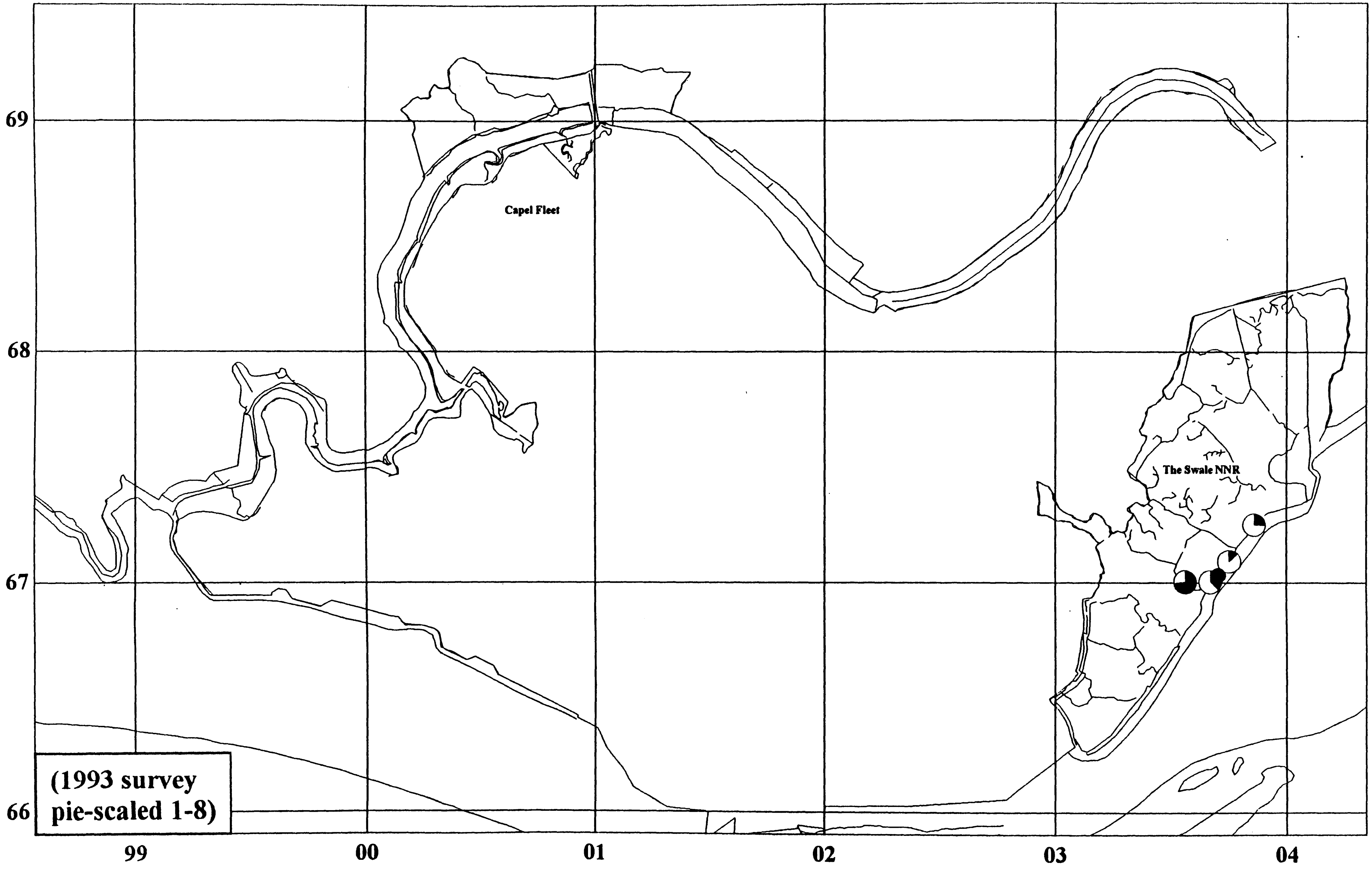
Ranunculus trichophyllus



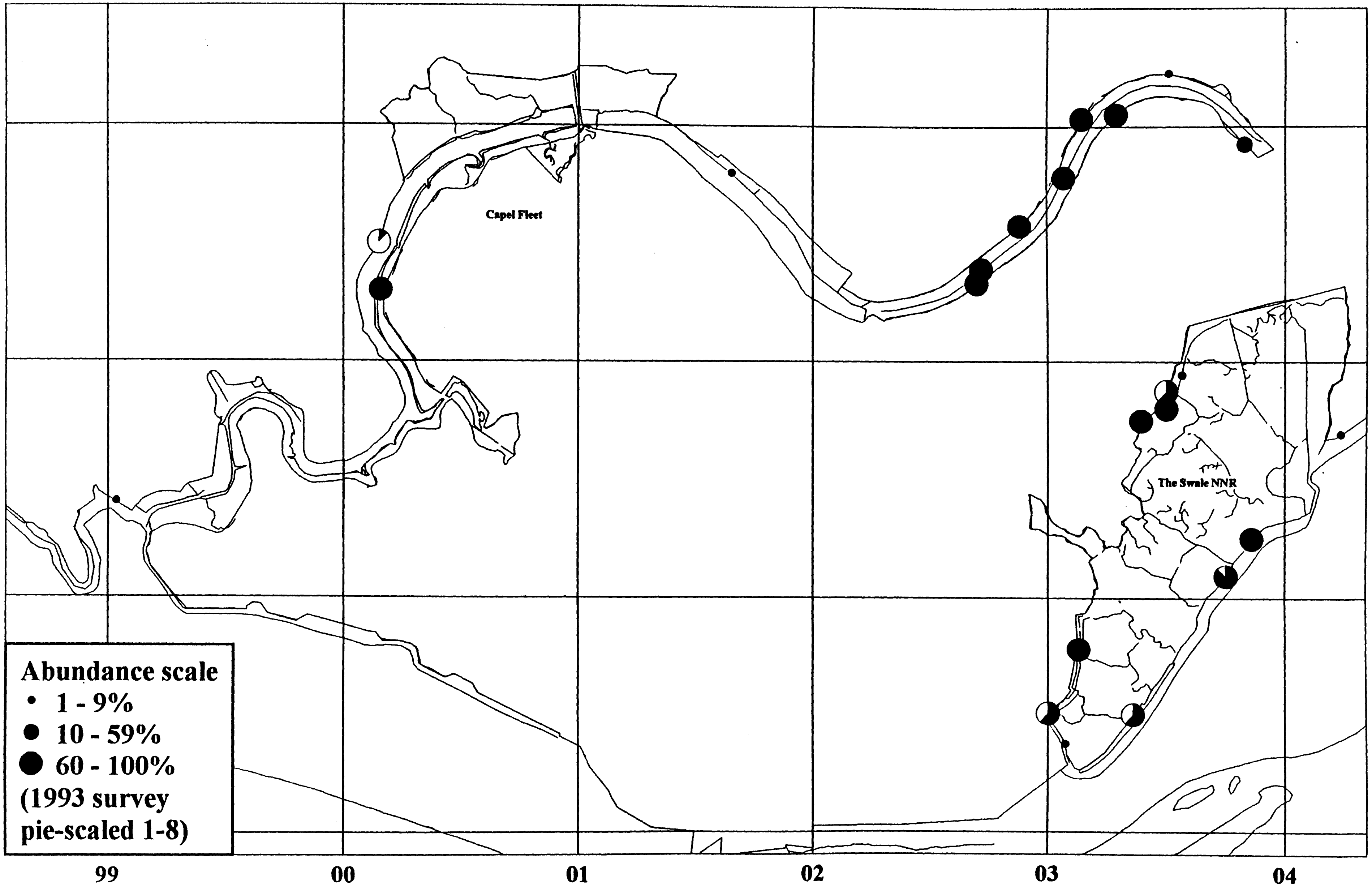
Zannichellia palustris



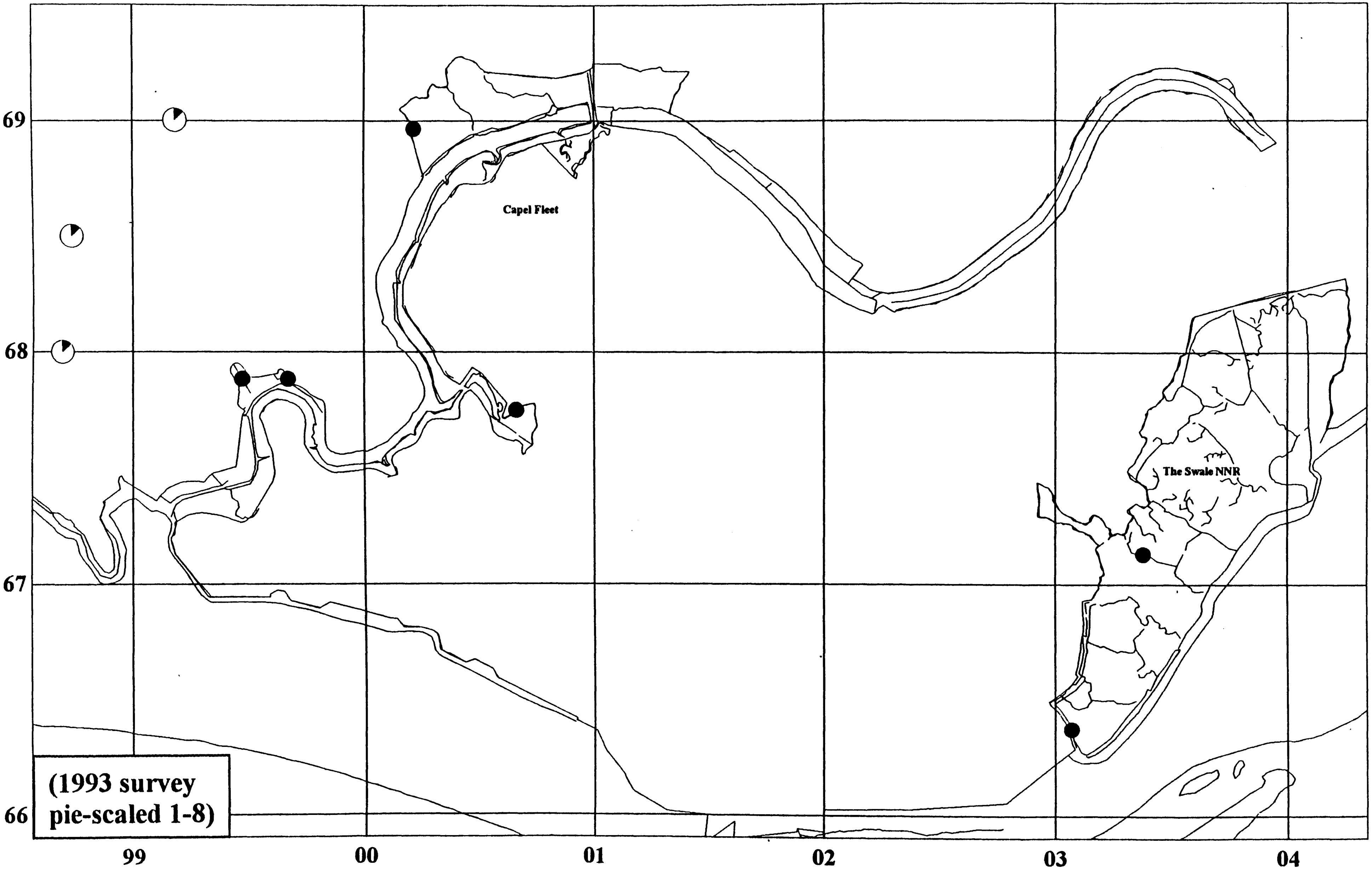
Hippuris vulgaris



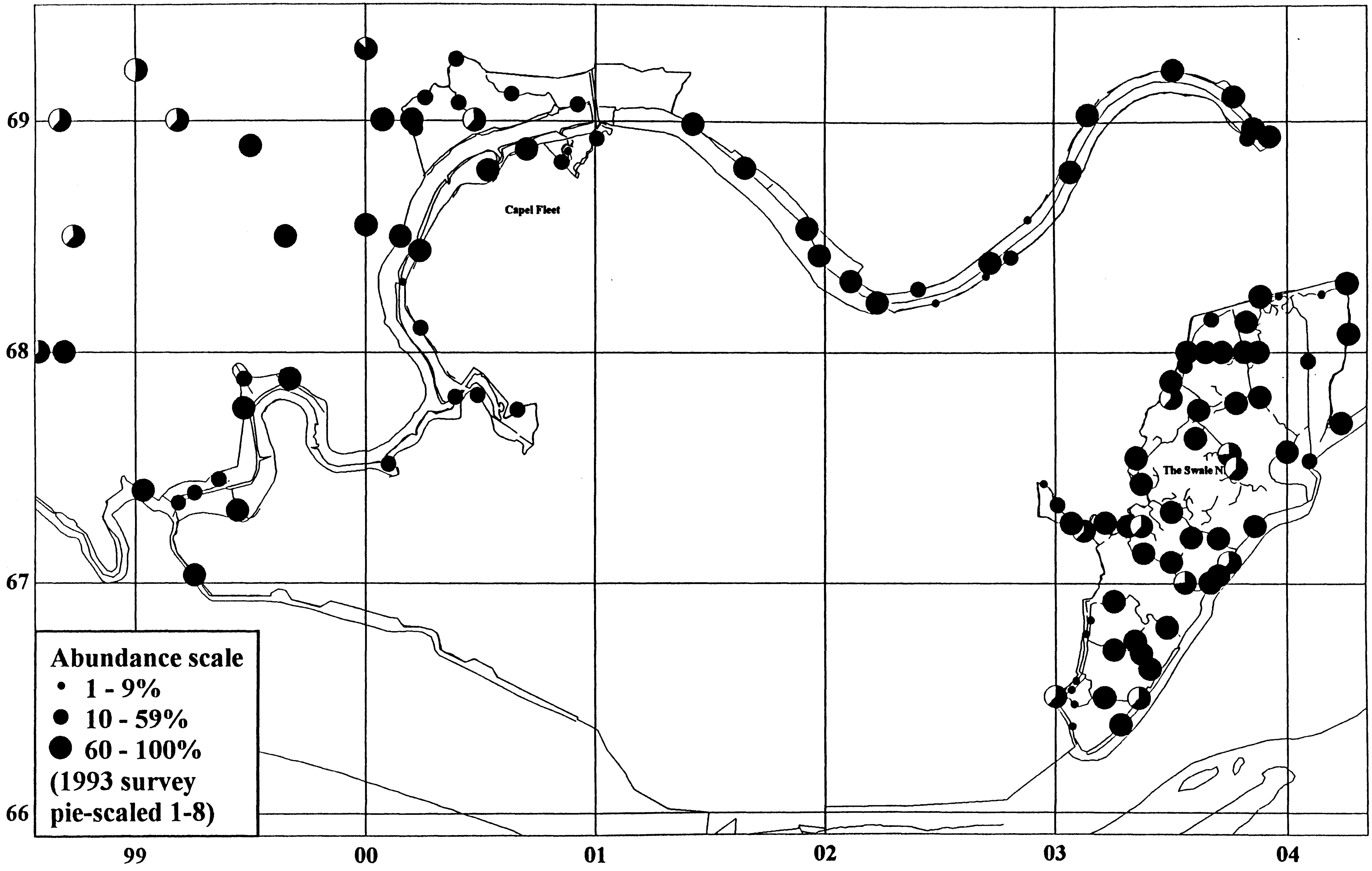
Phragmites australis



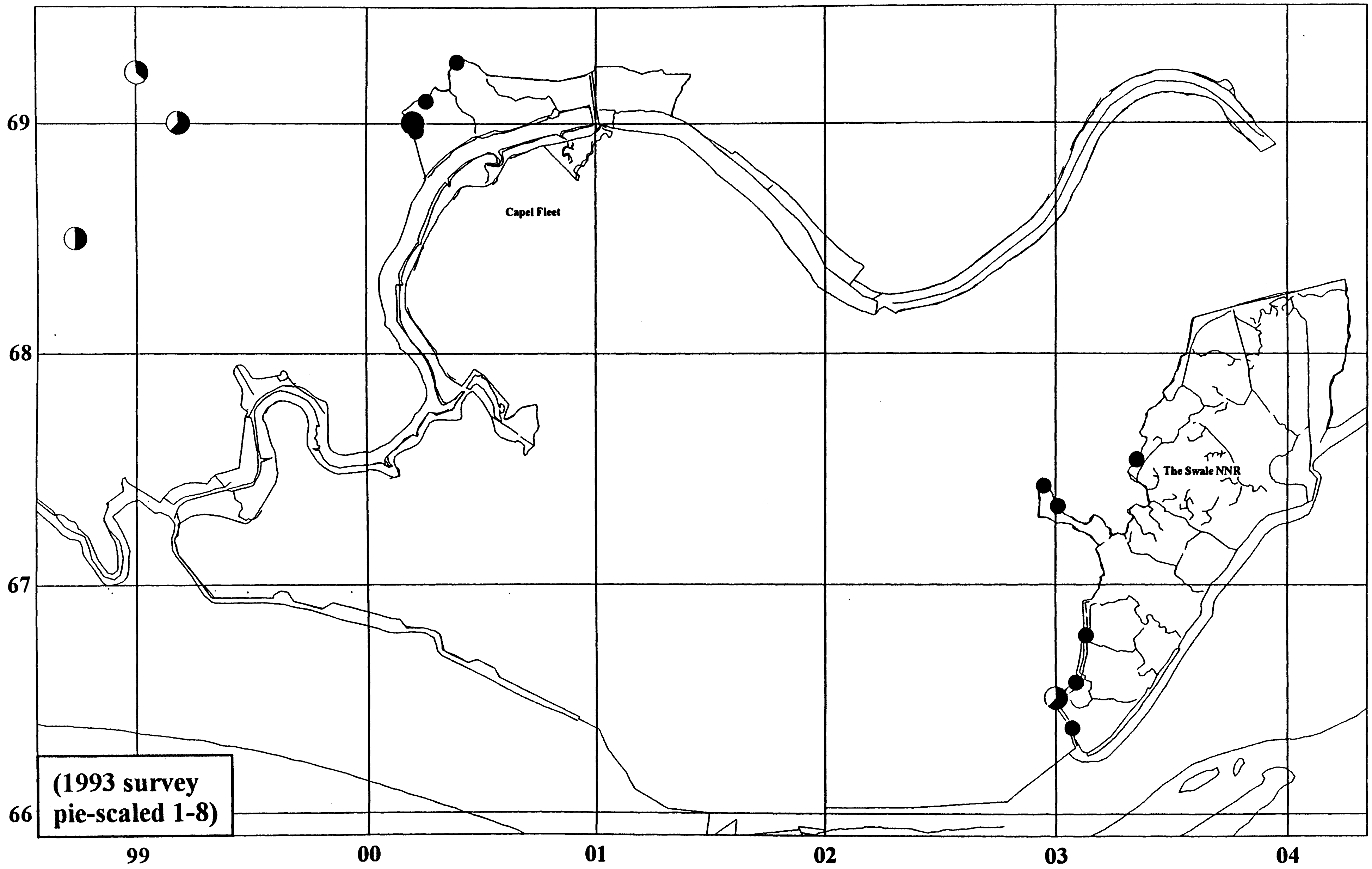
Scirpus lacustris



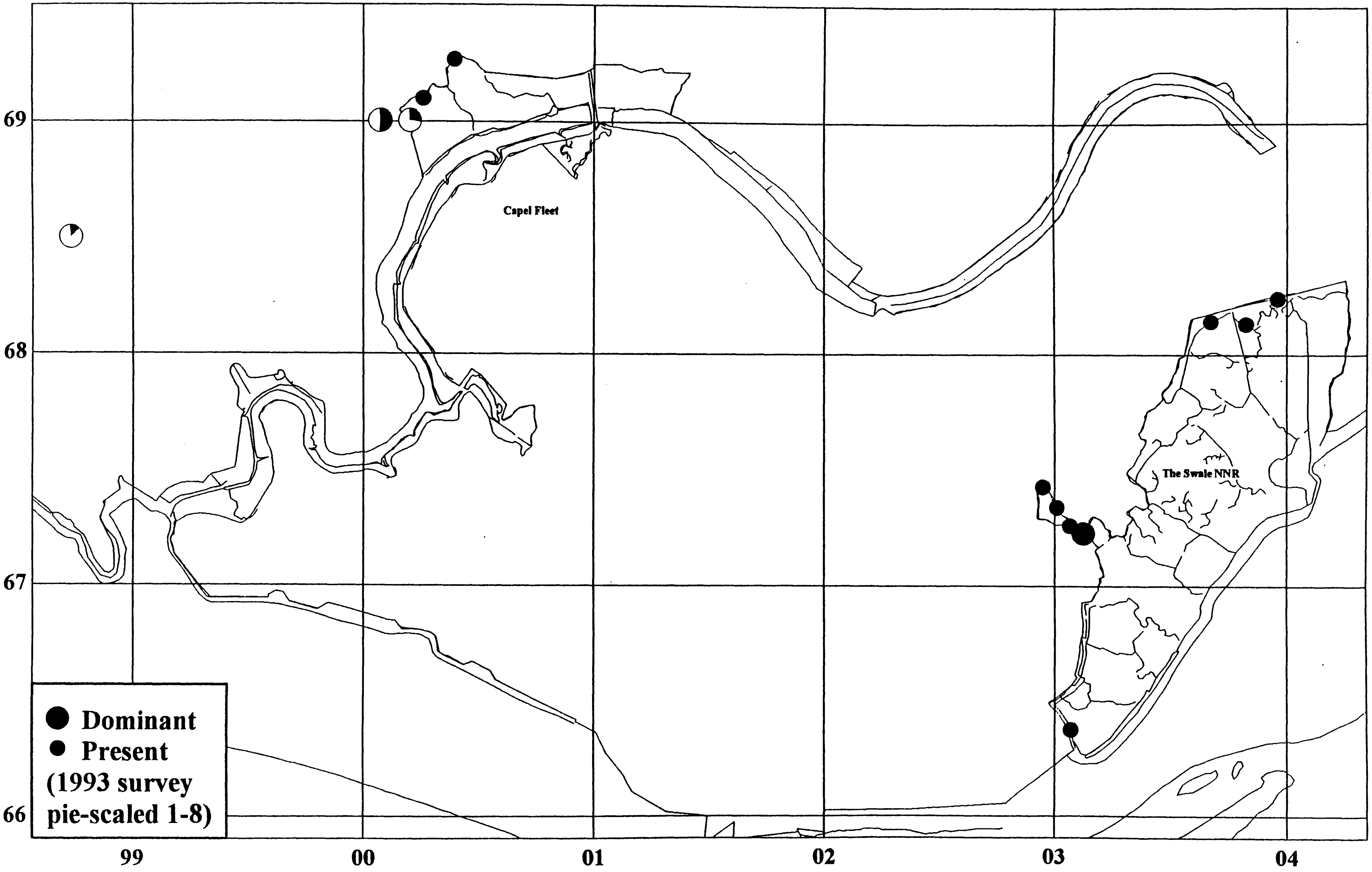
Scirpus maritimus



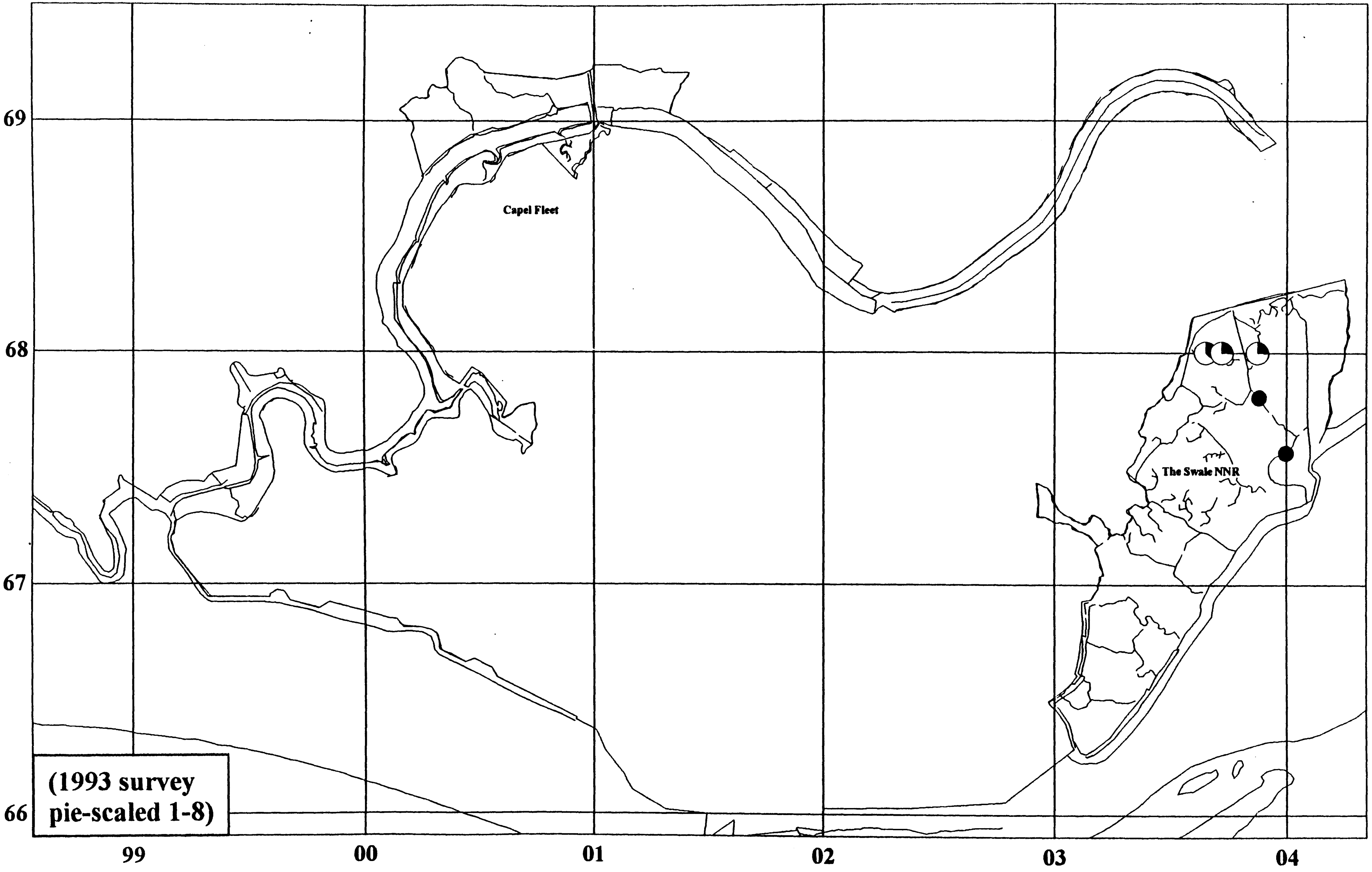
Sparganium erectum



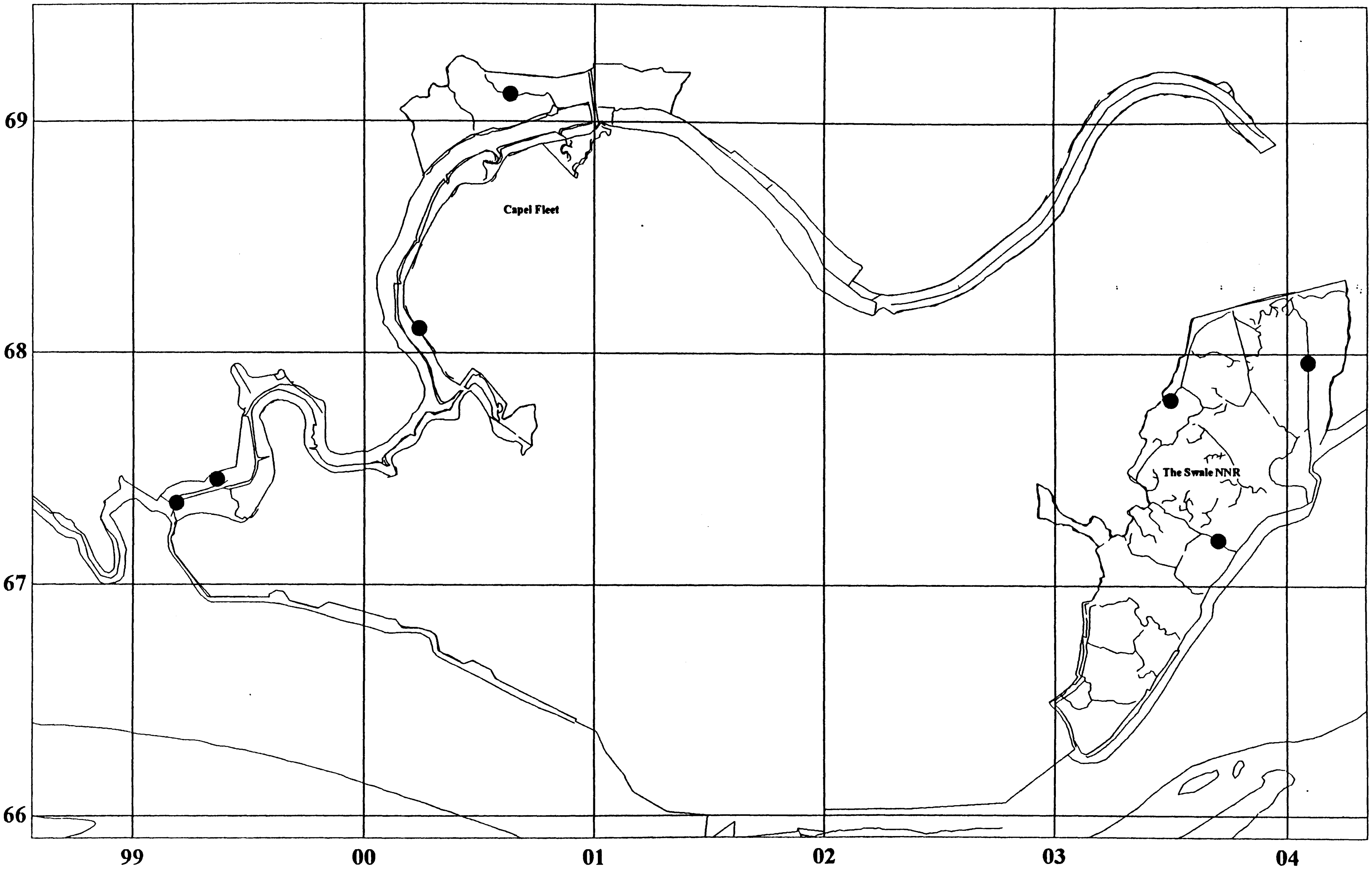
Typha angustifolia



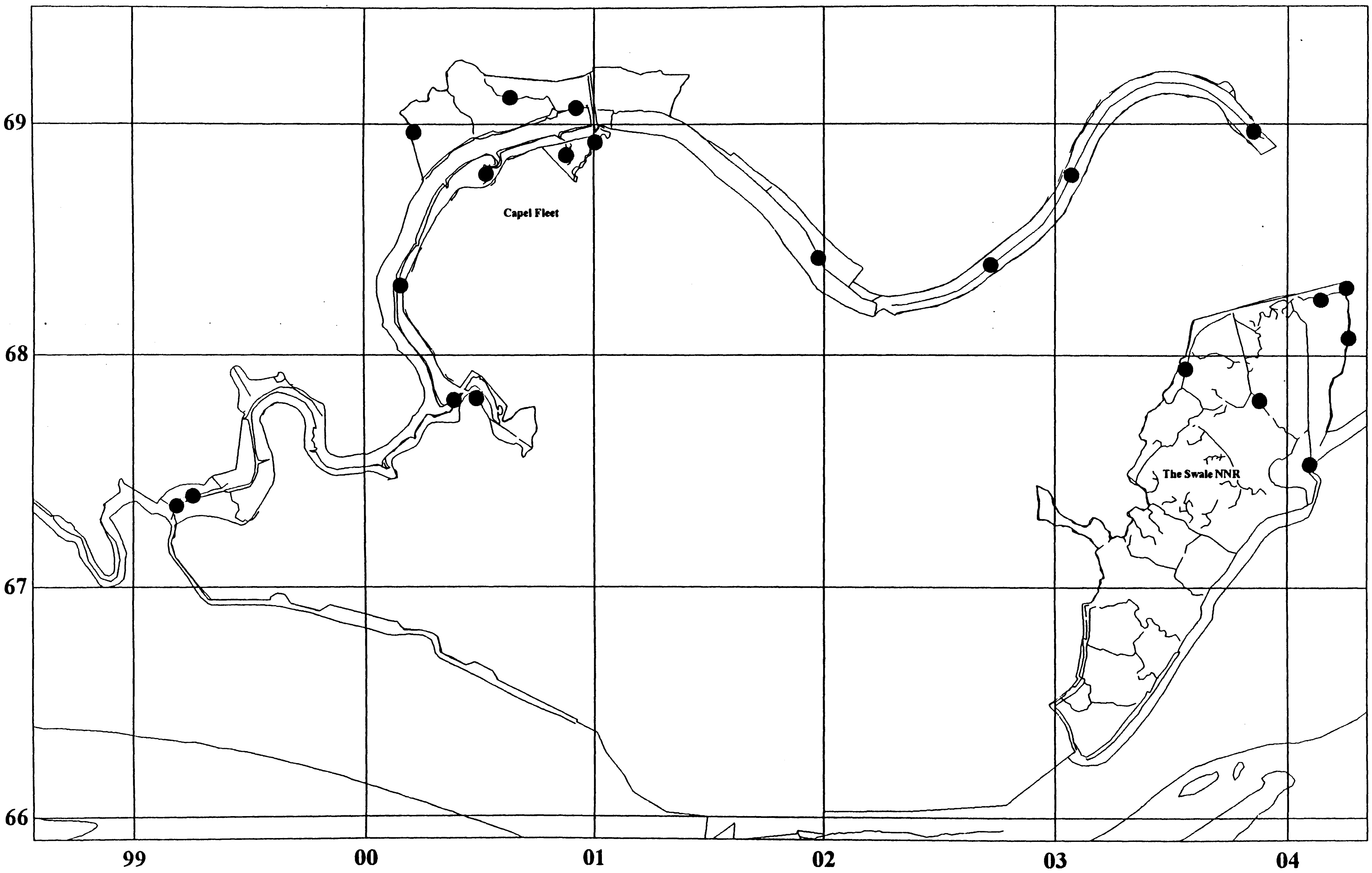
Veronica catenata



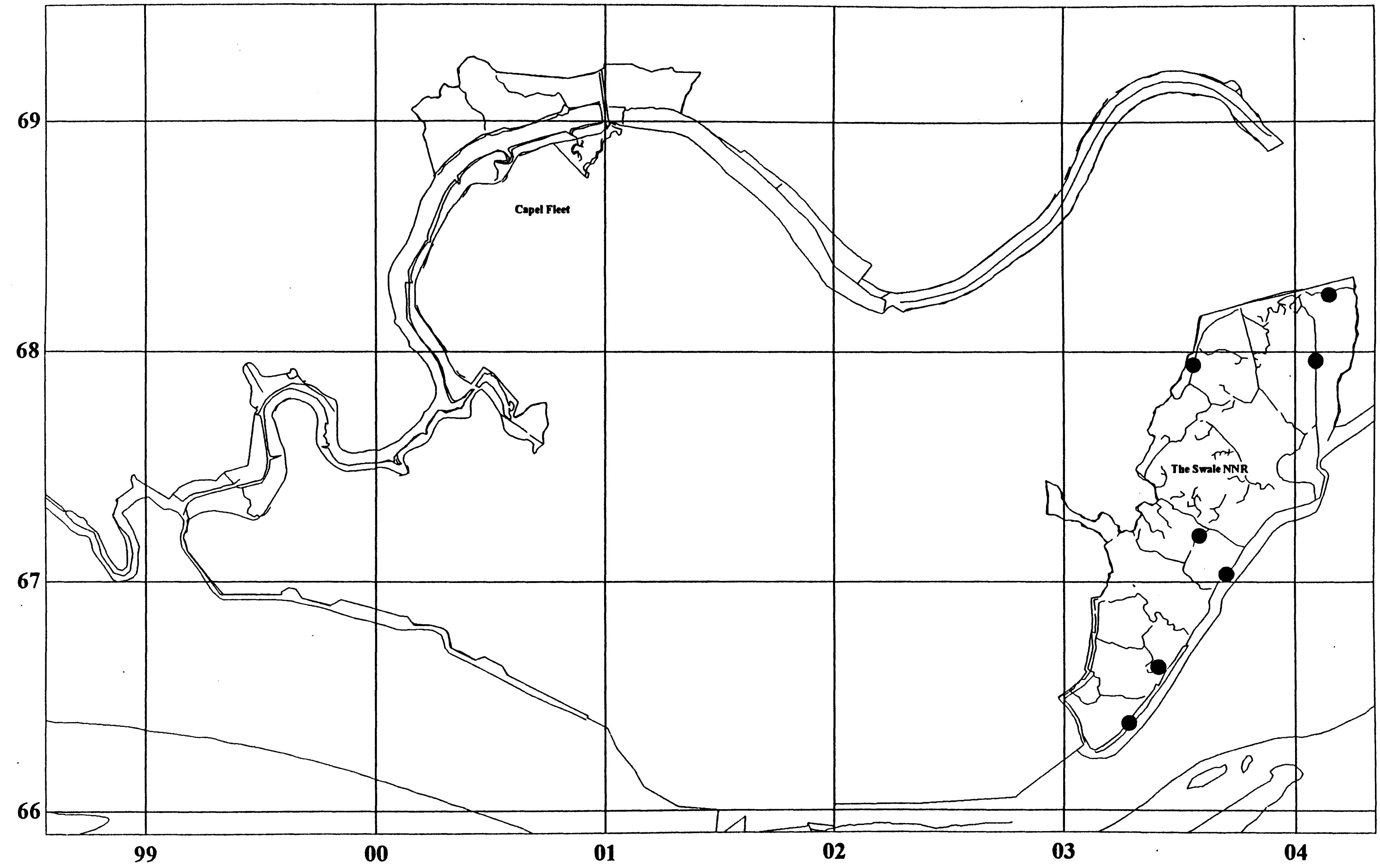
Carex divisa



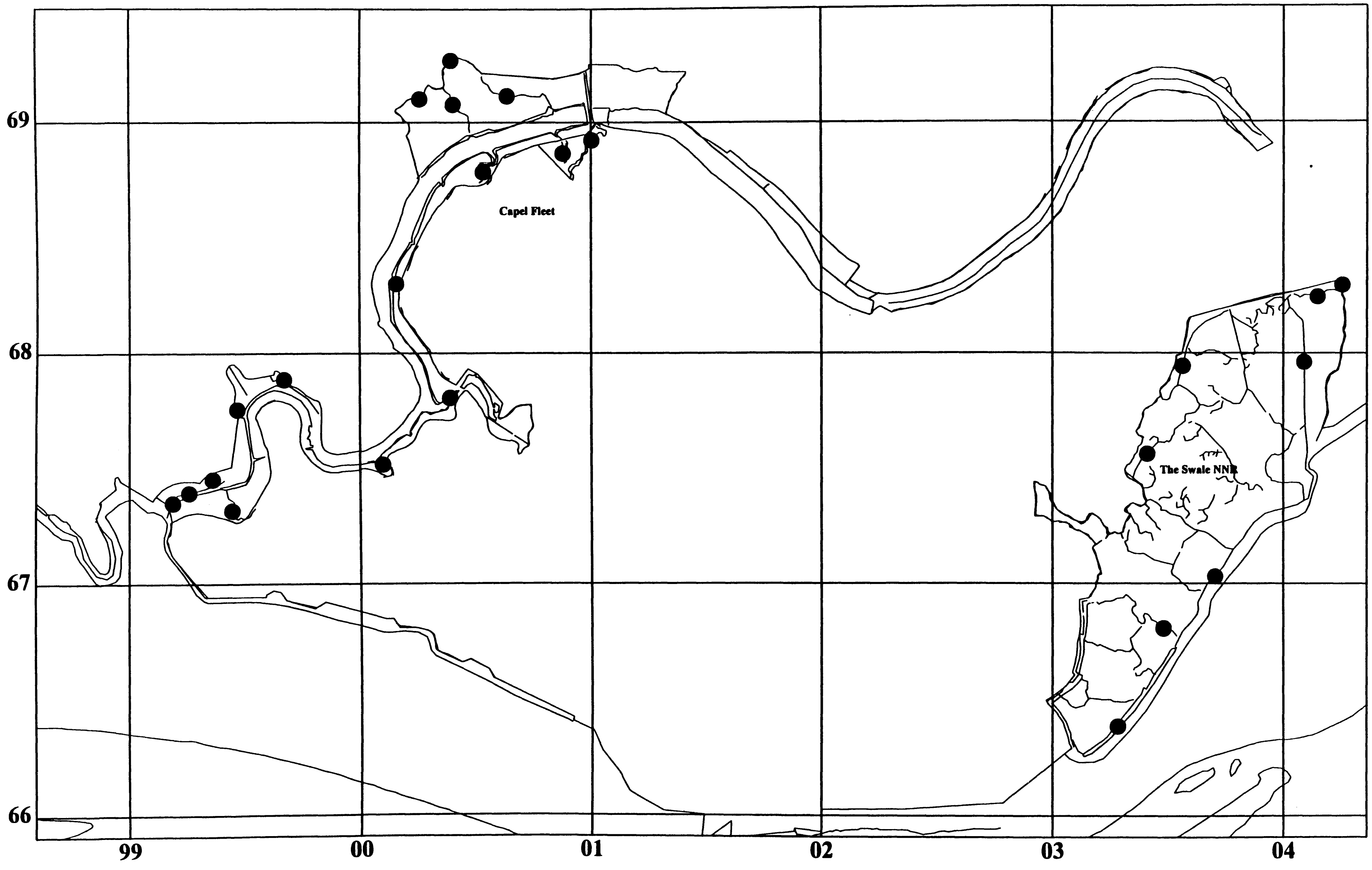
Chenopodium chenopodioides



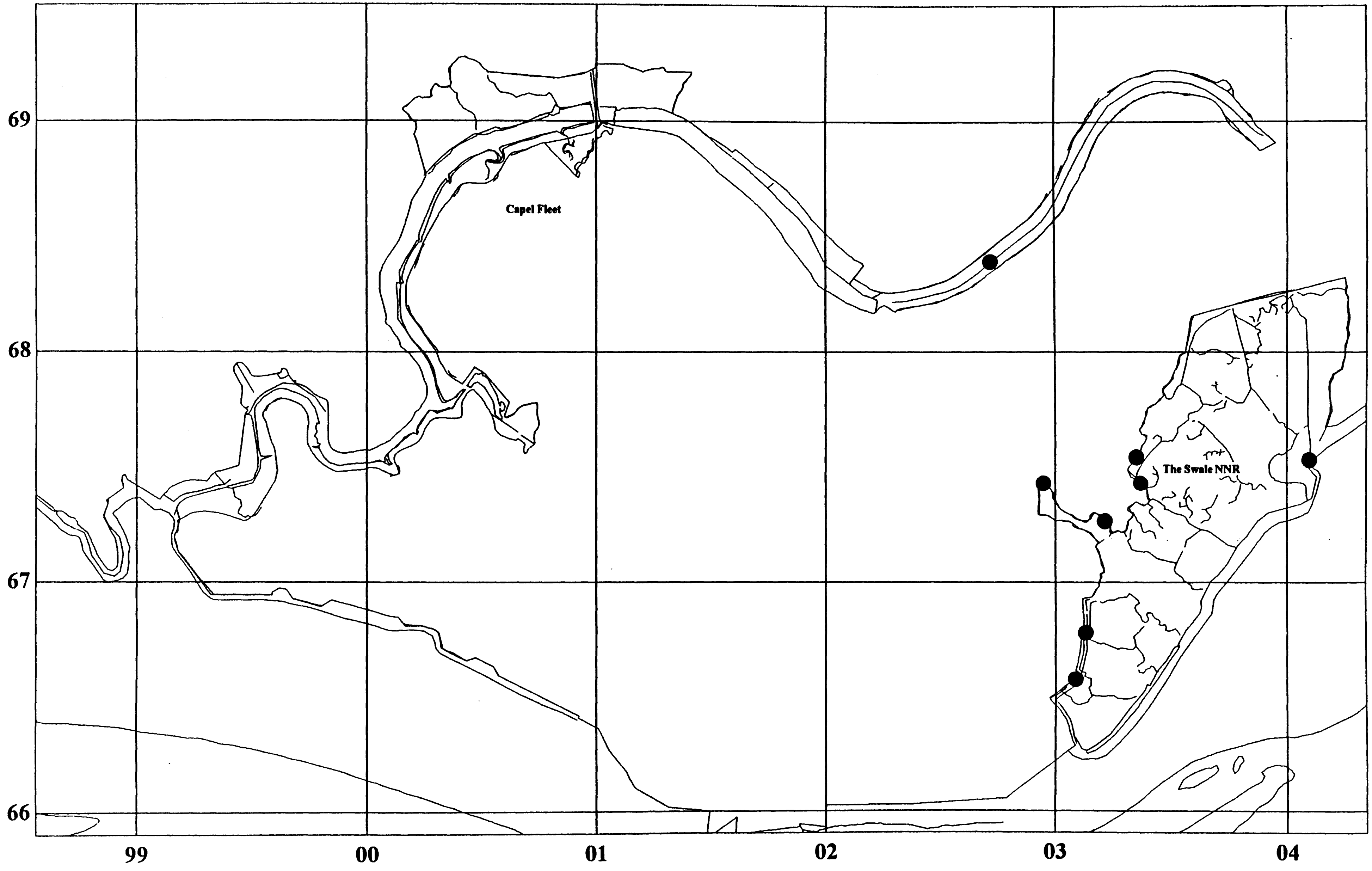
Glaux maritima



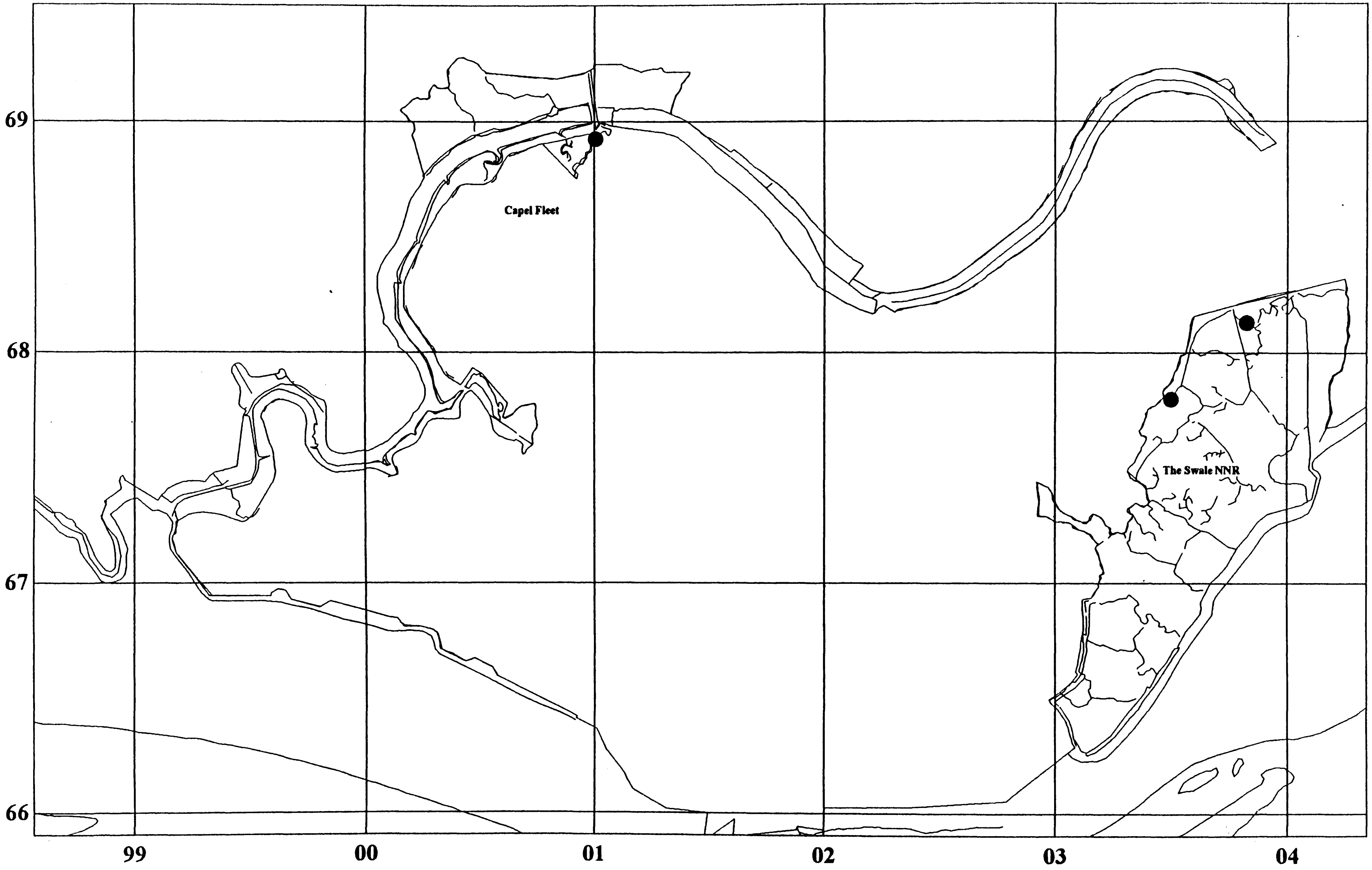
Juncus gerardii



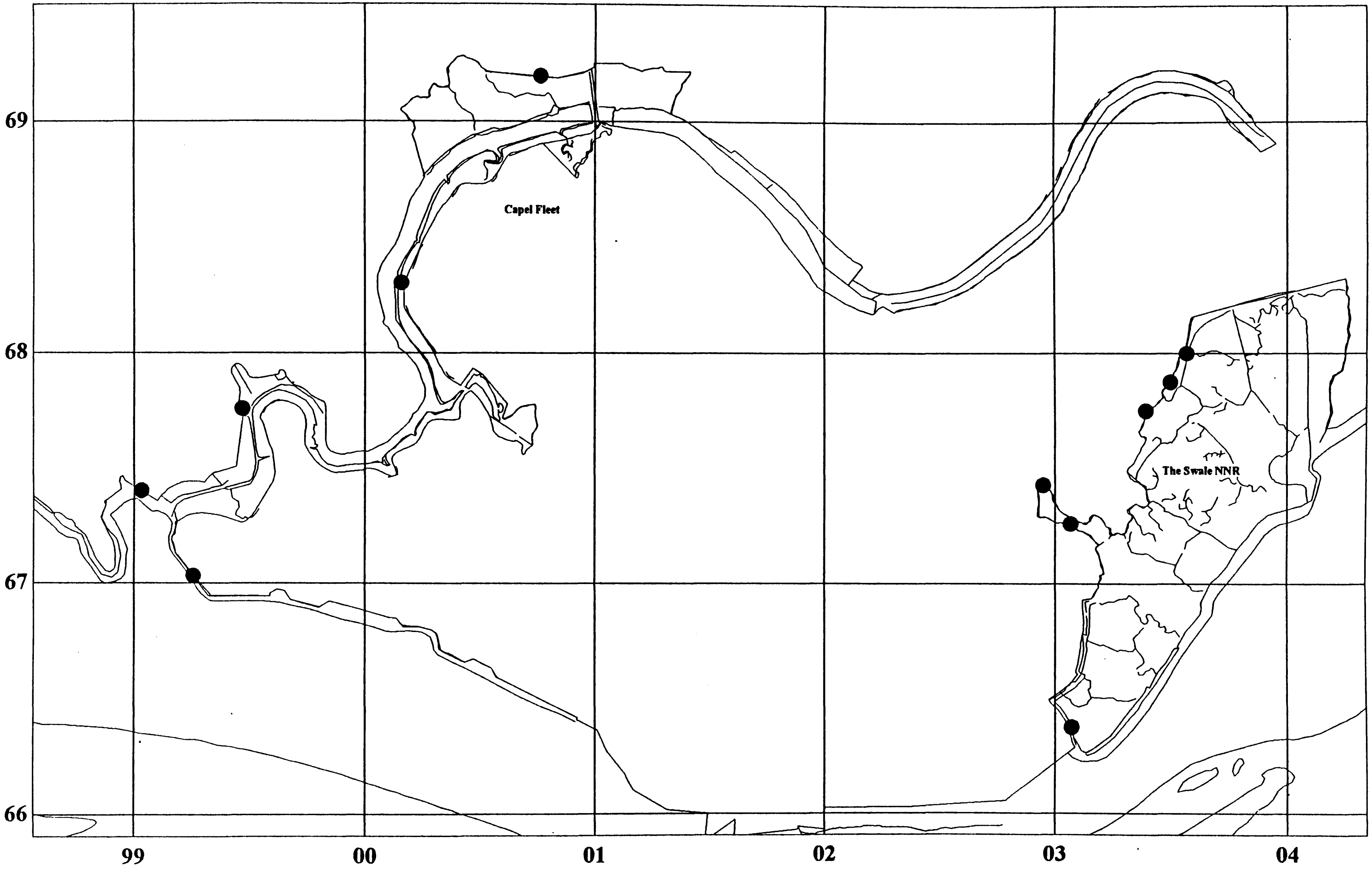
Lycopus europaeus



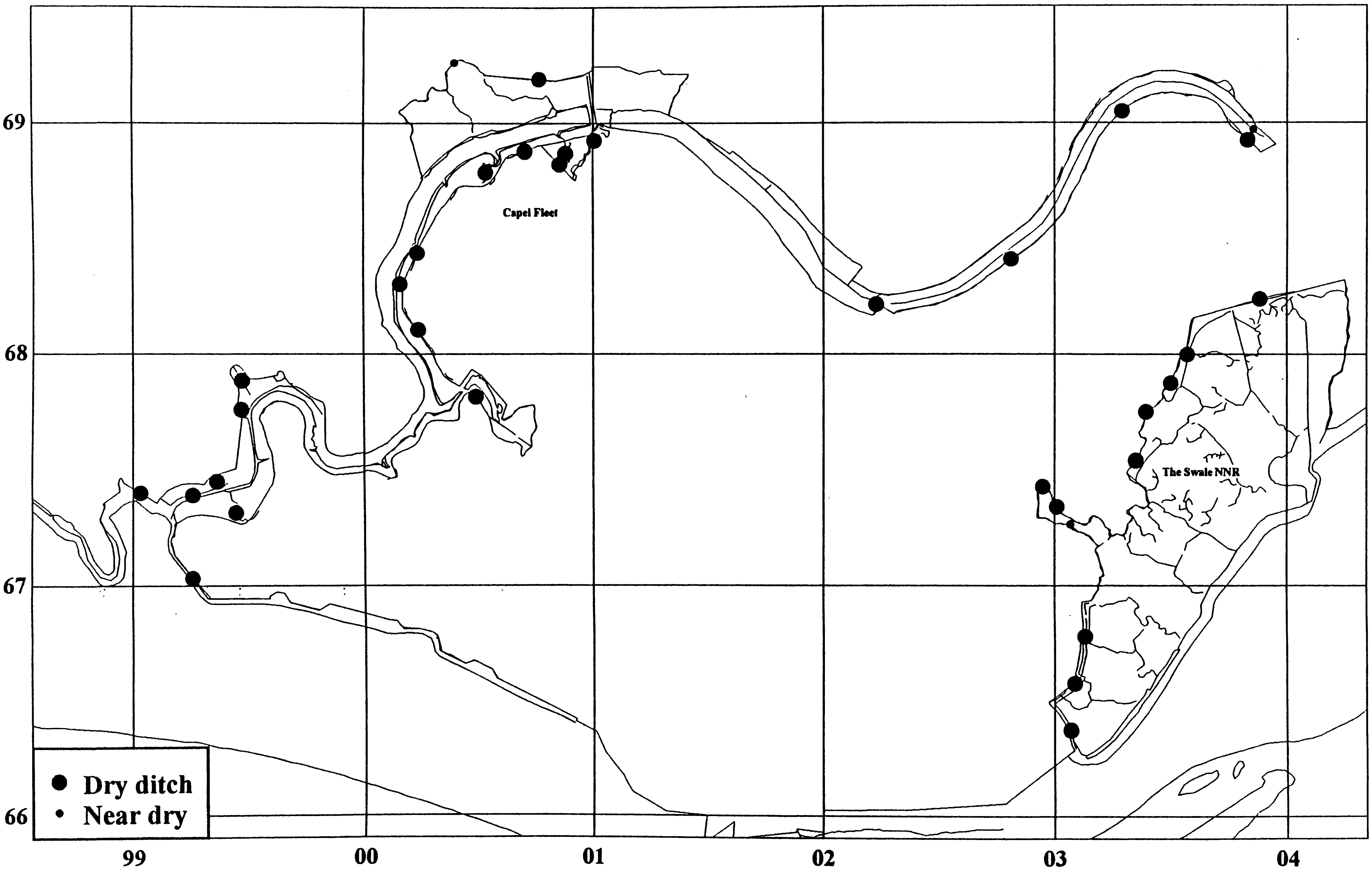
Samolus valerandi



Ditch choked



Ditch dry



69
68
67
66
99
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01
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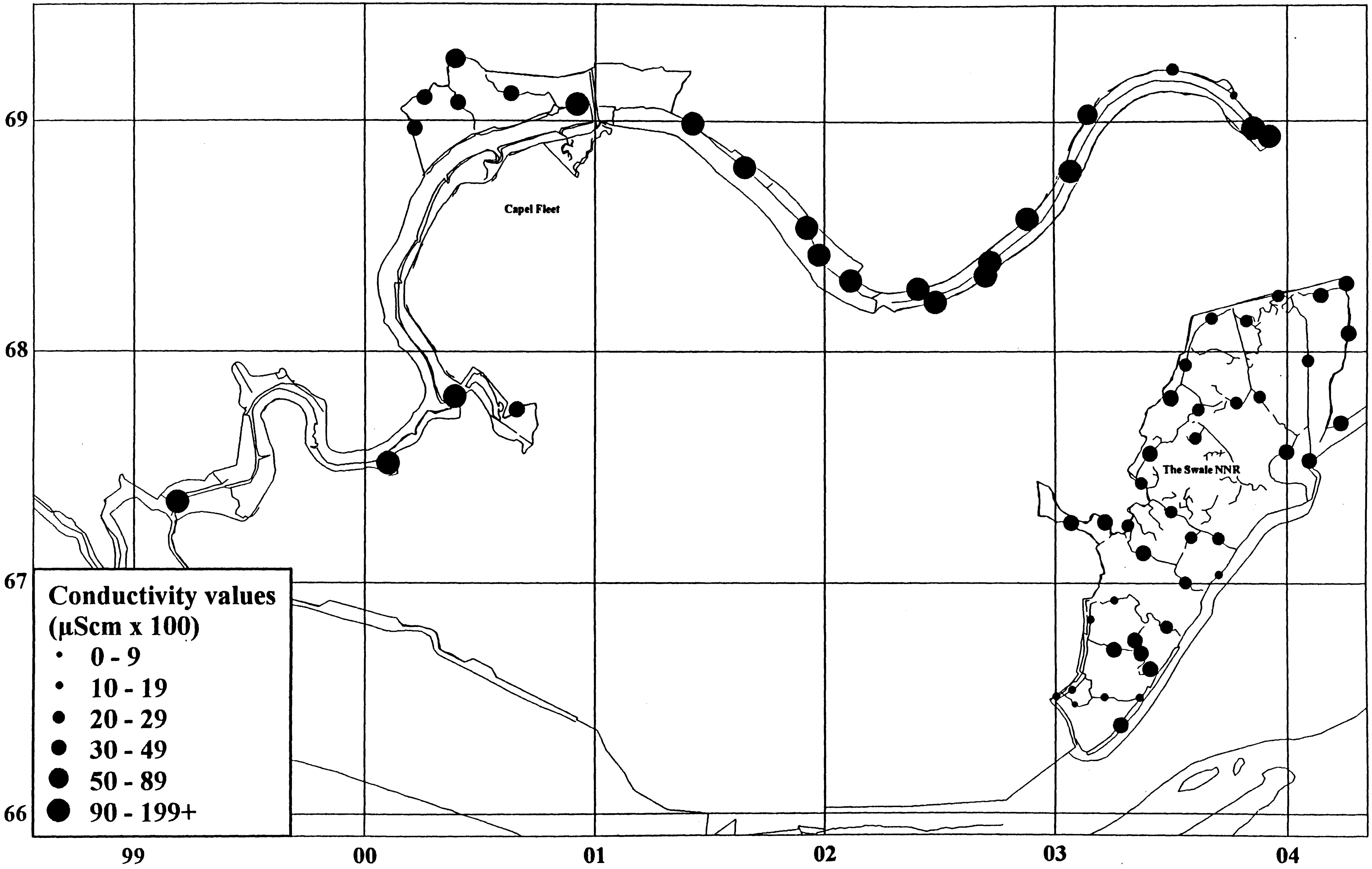
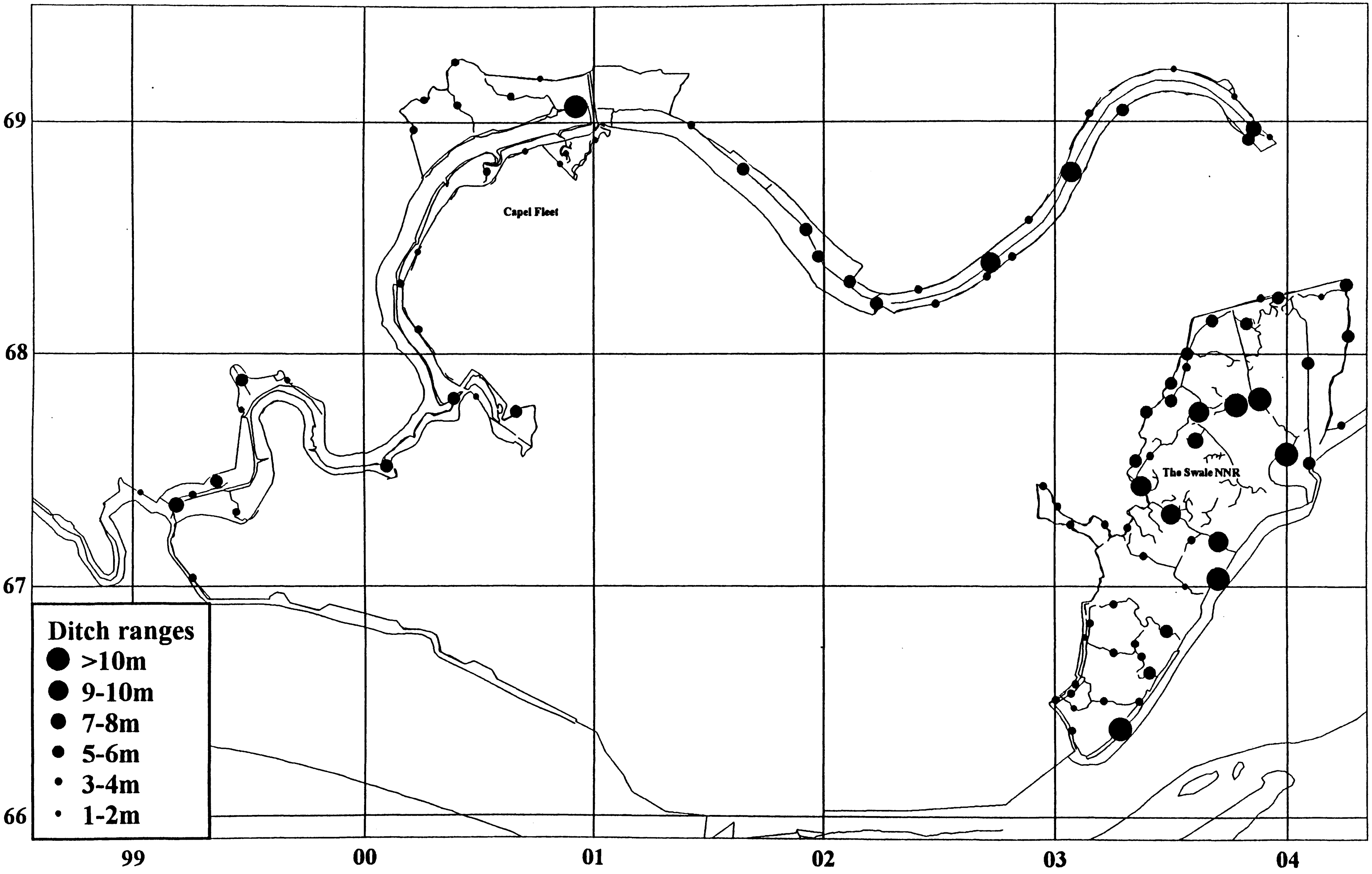
03
04
Capel Fleet
The Swale NNR
● Dry ditch
• Near dry

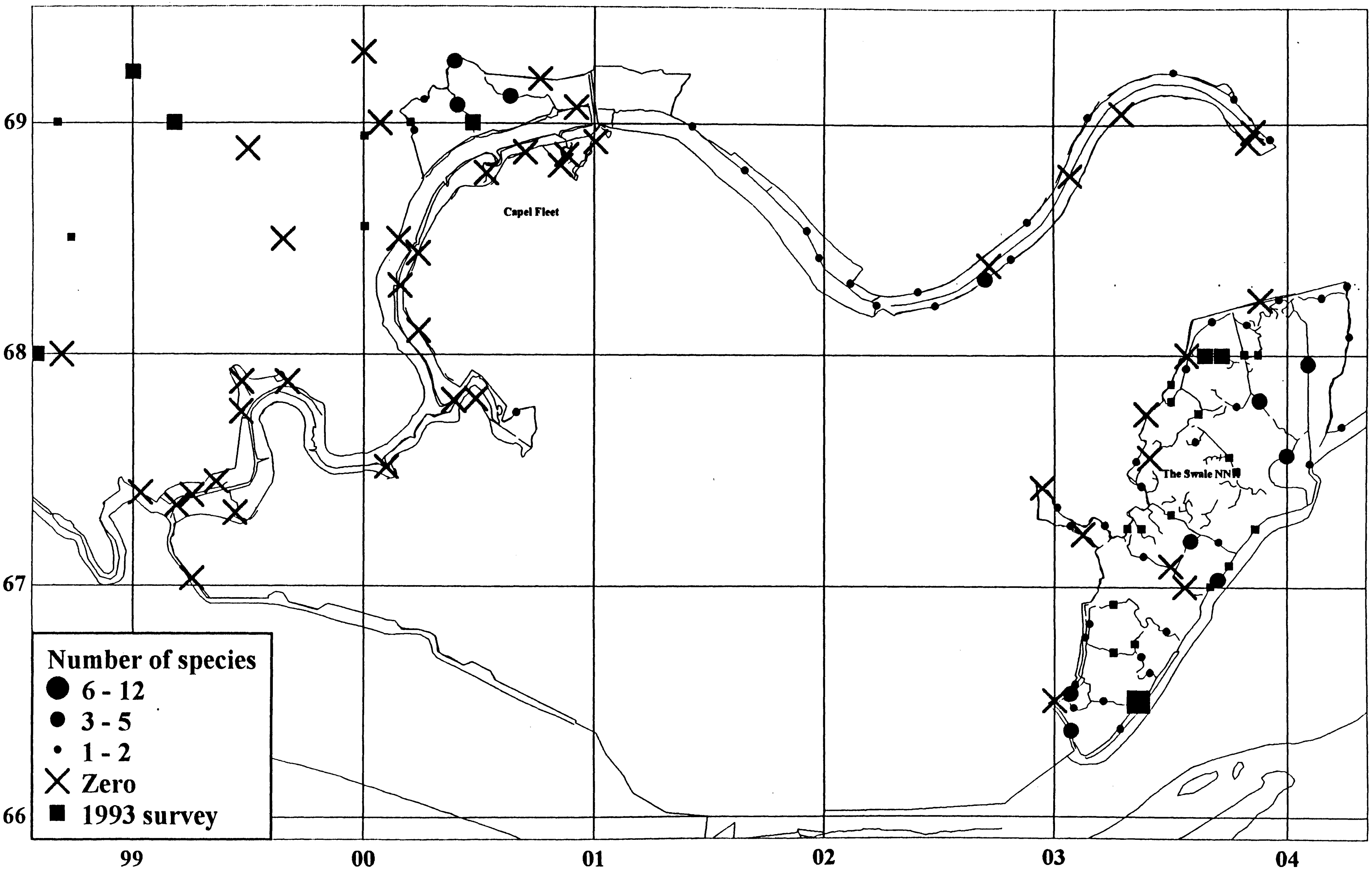
Conductivity values



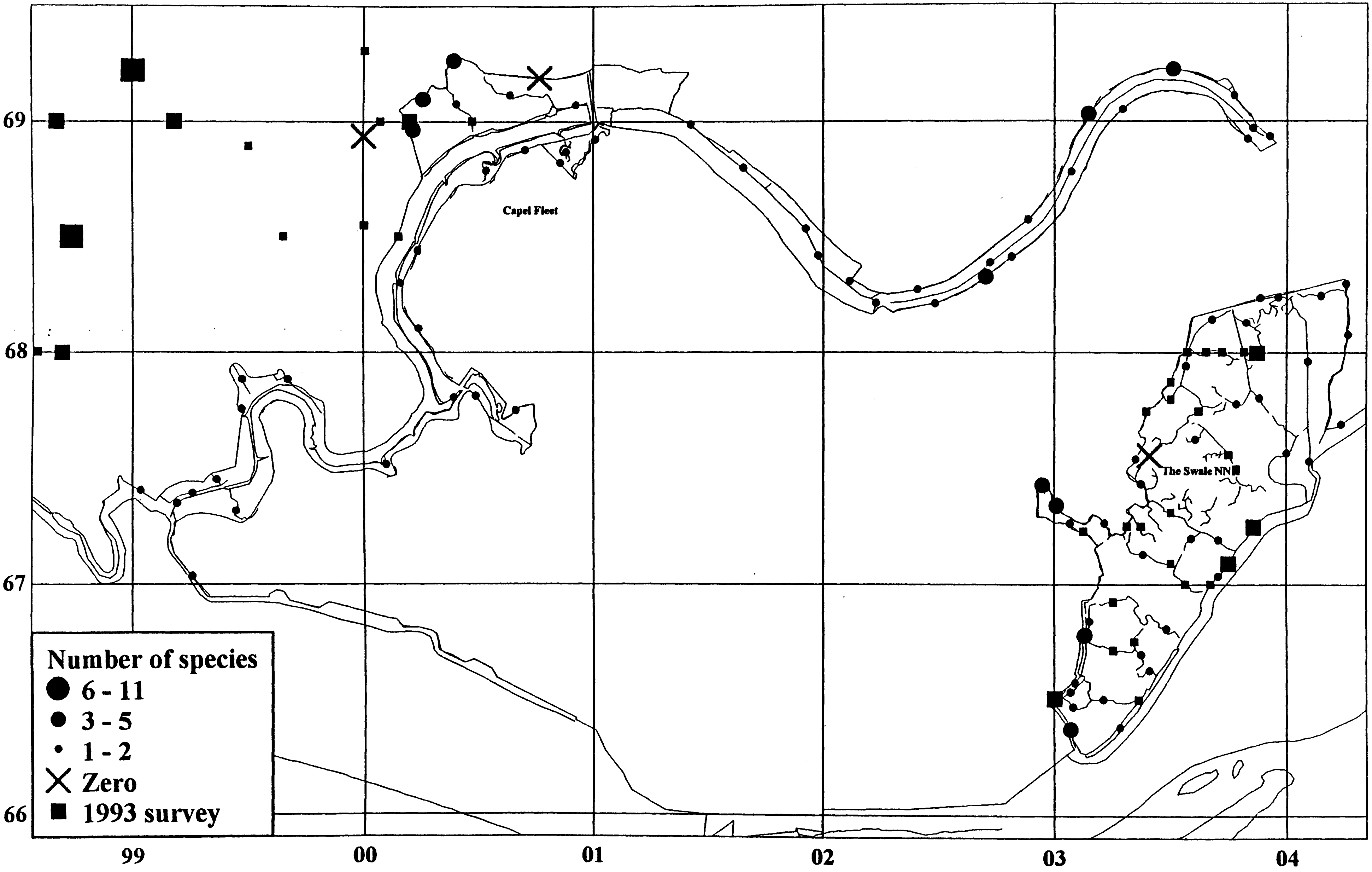
Ditch widths



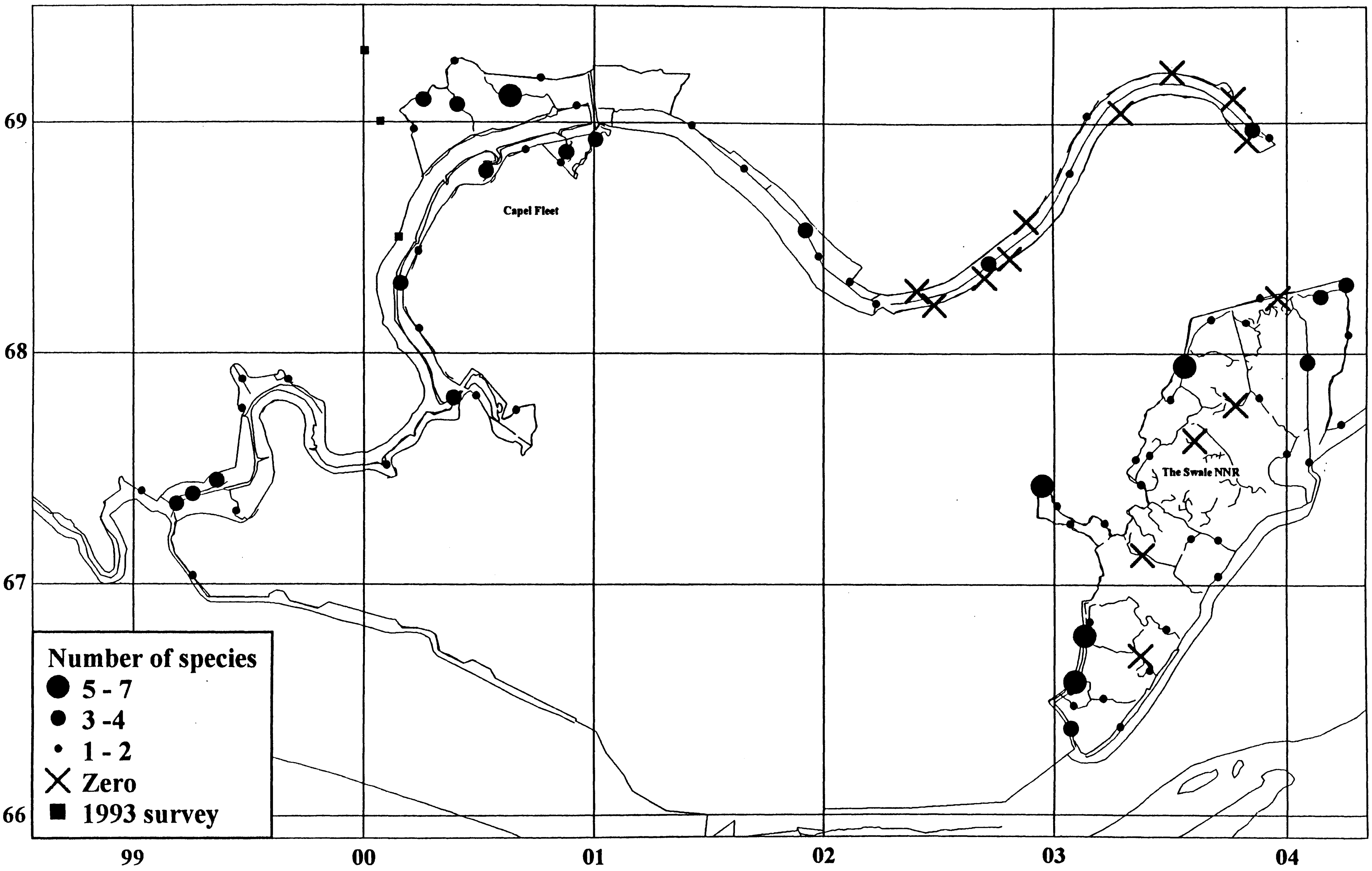
Number of aquatic species



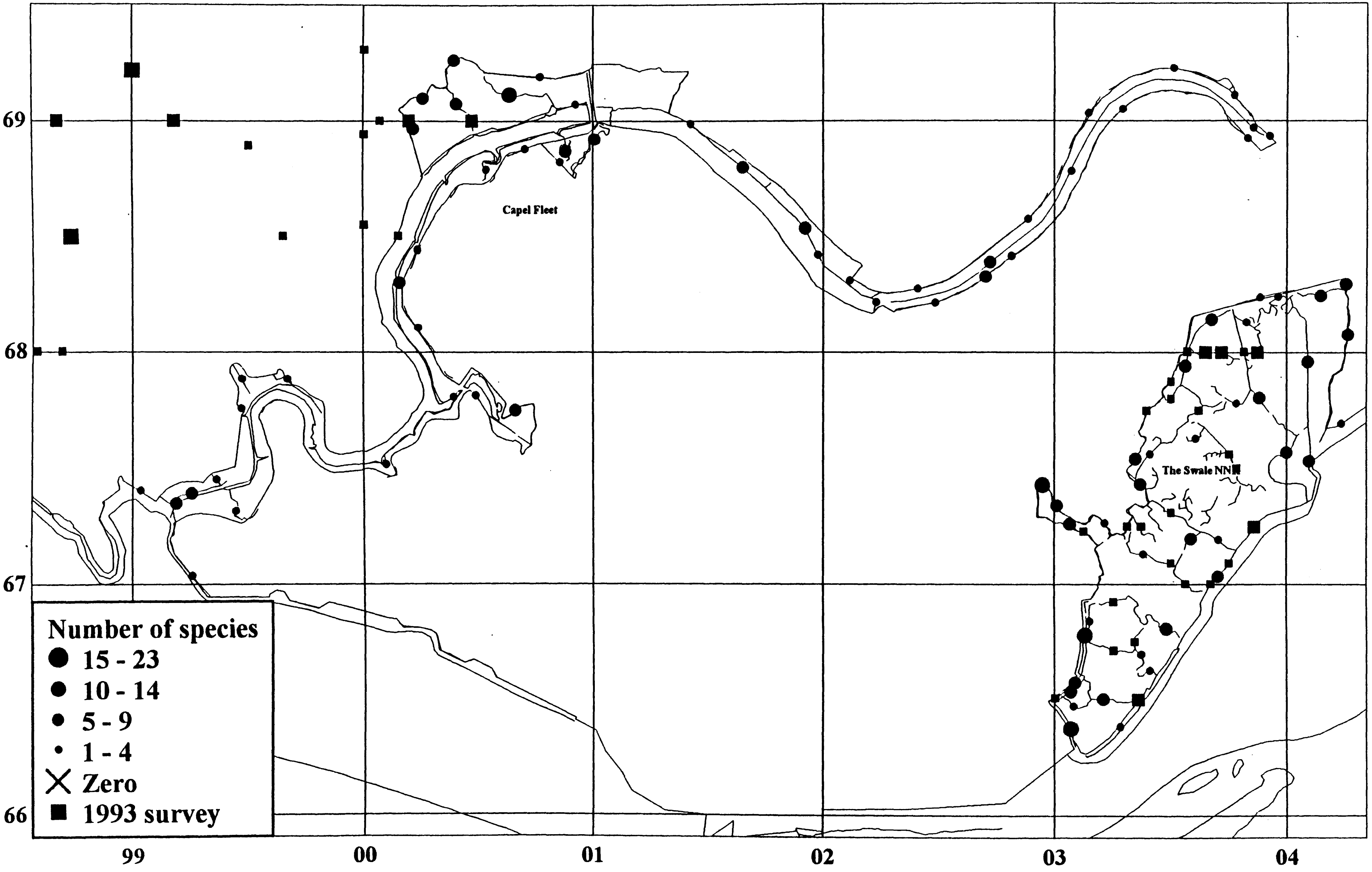
Number of emergent species



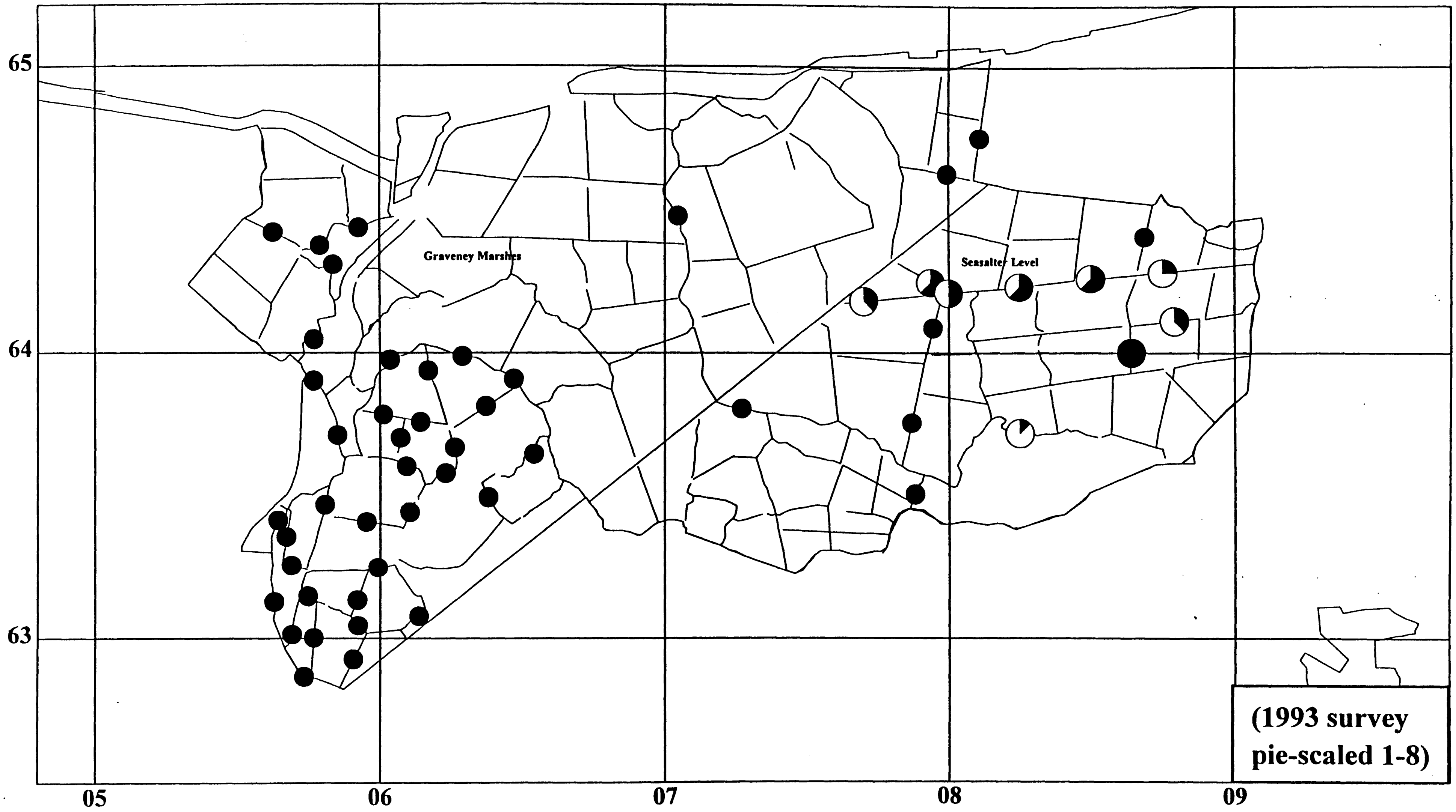
Number of bank species



Total number of species

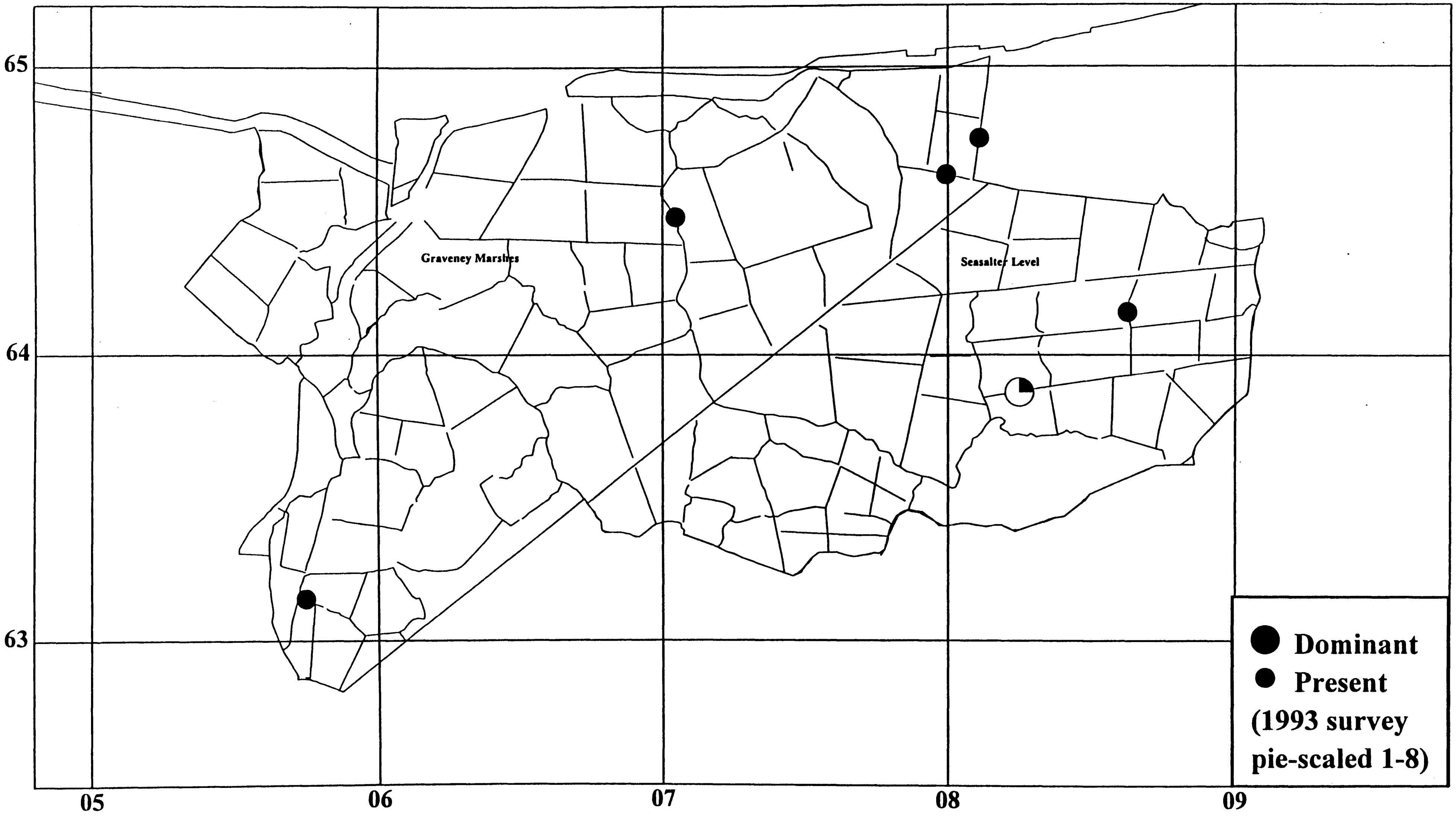


Ceratophyllum demersum

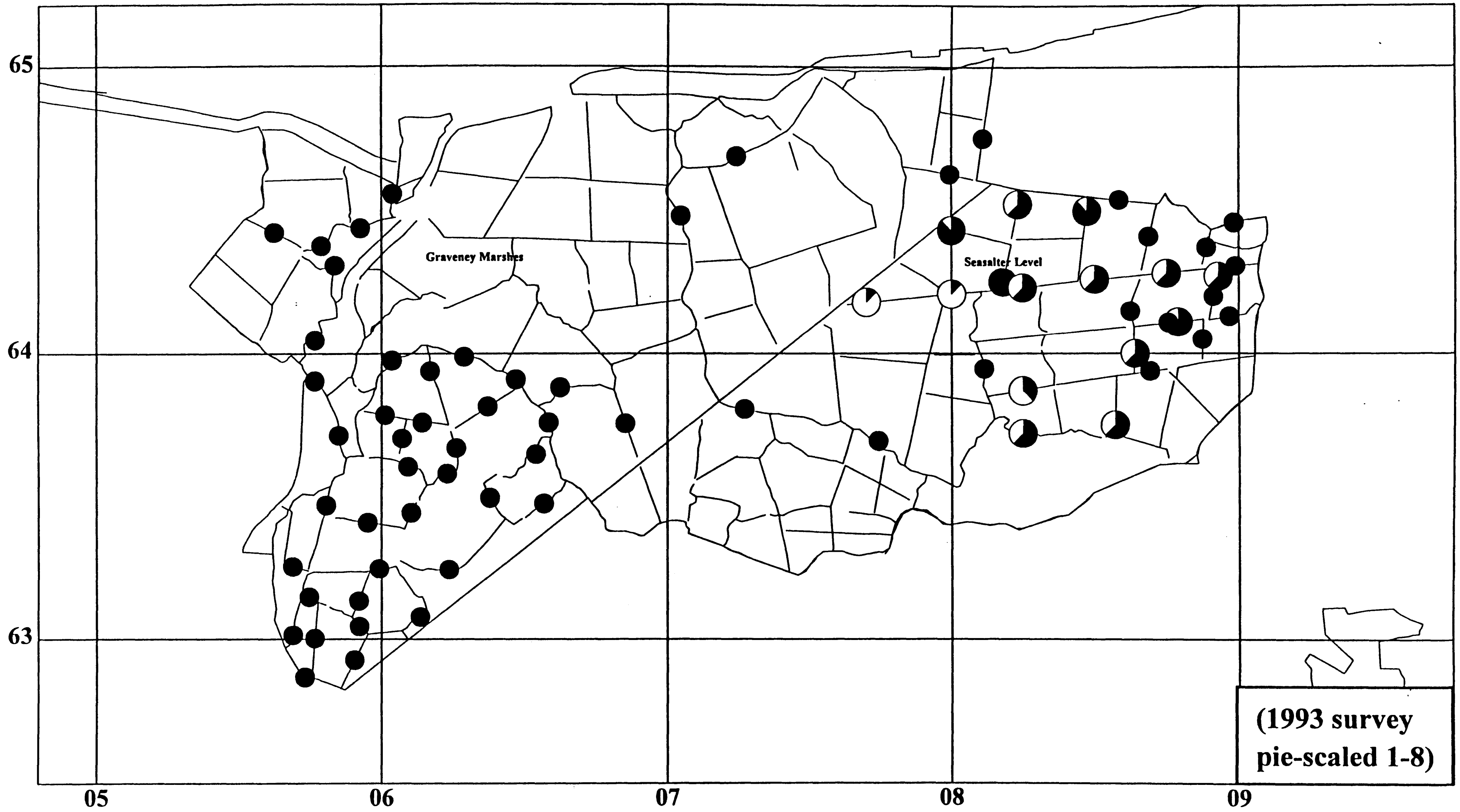


(1993 survey
pie-scaled 1-8)

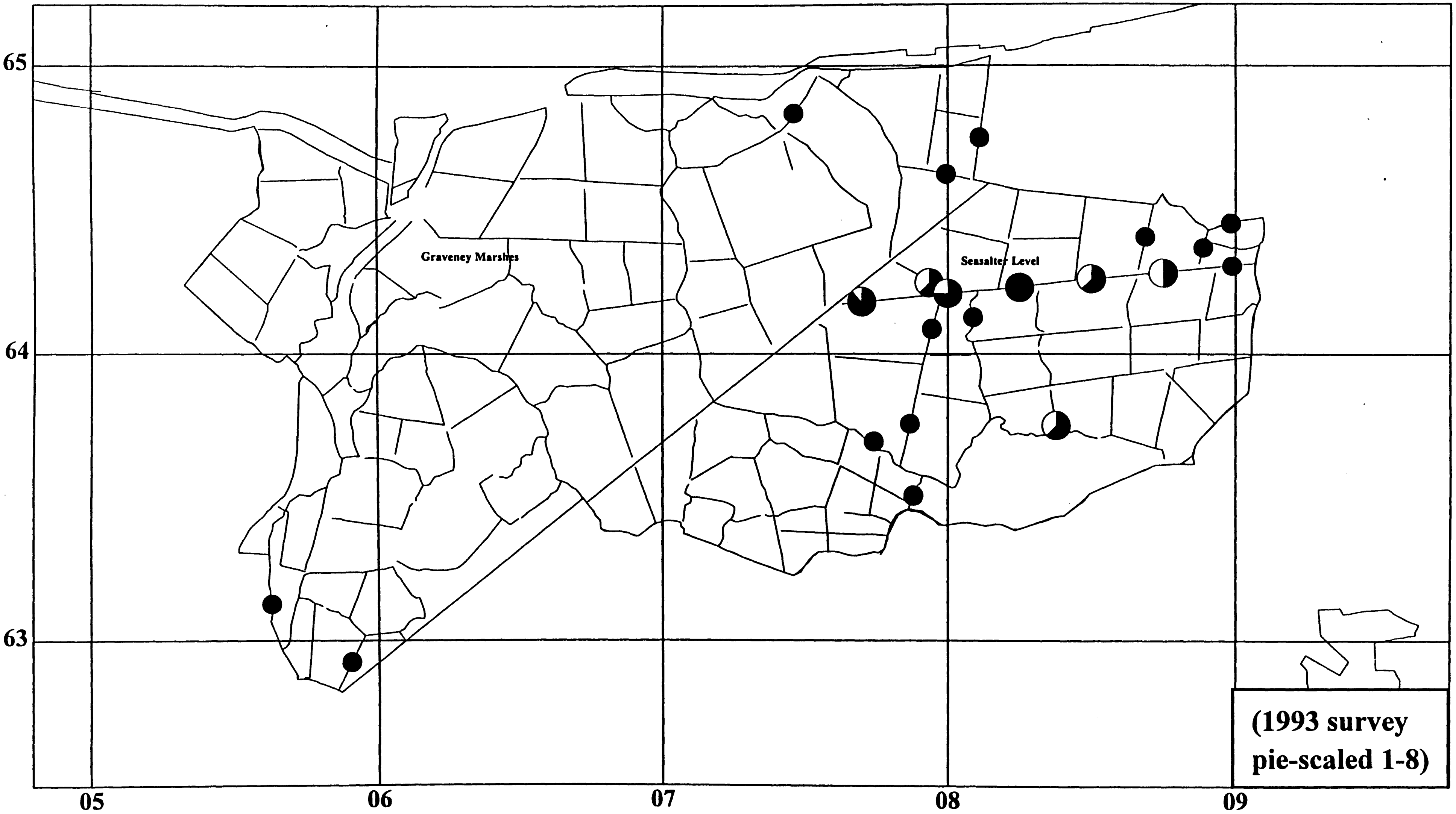
Ceratophyllum submersum



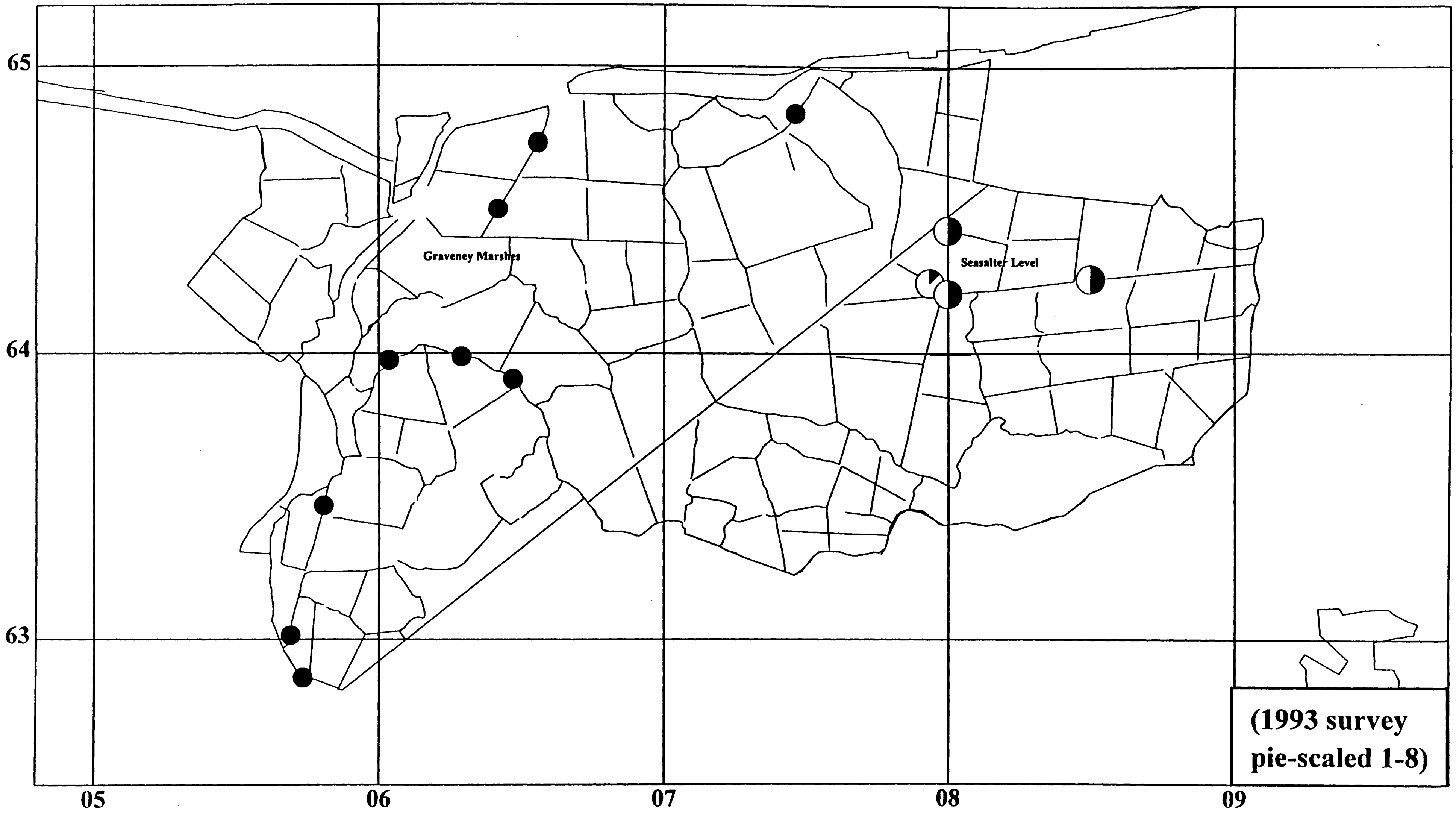
Hydrocharis morsus-ranae



Lemna gibba

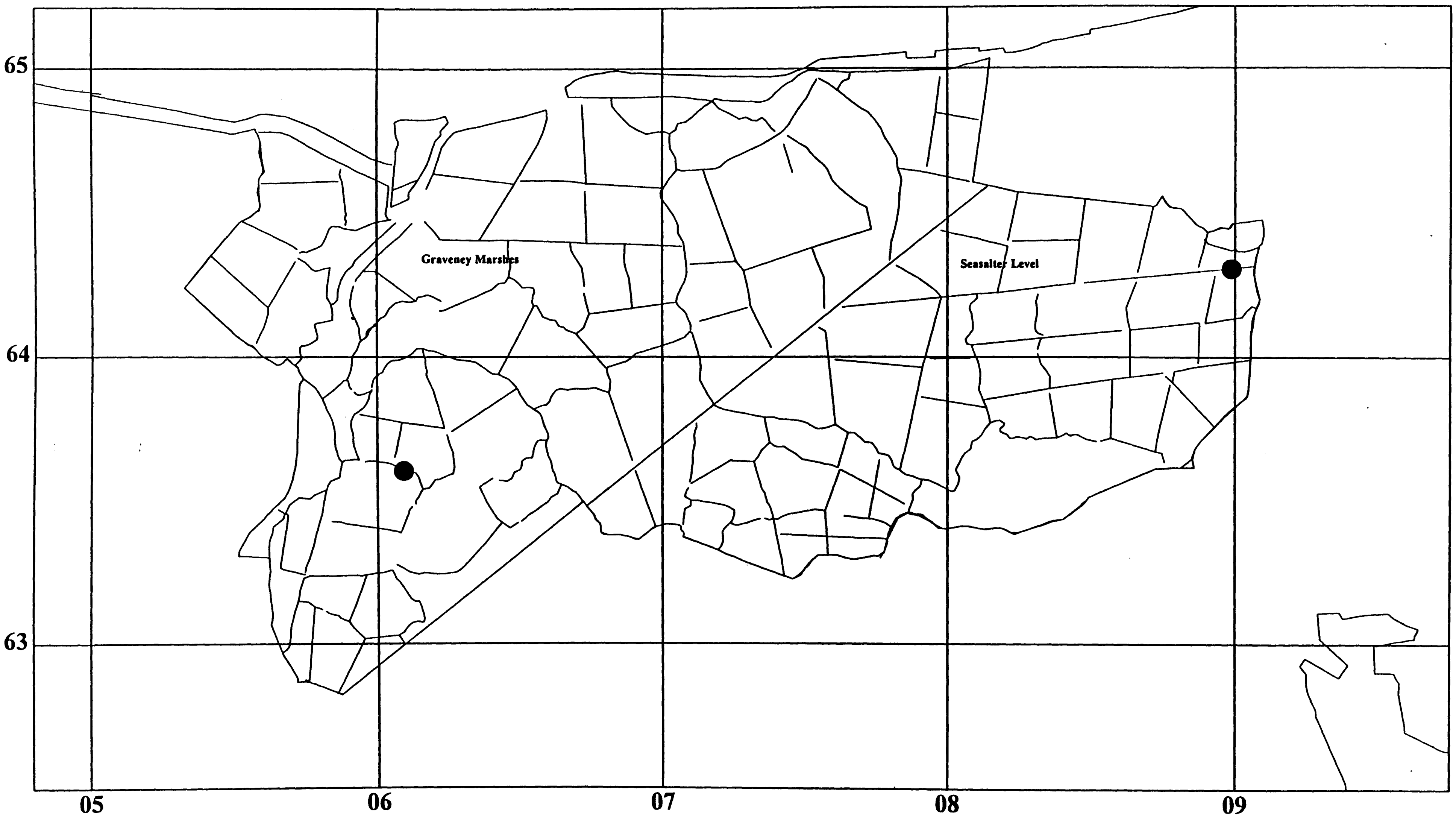

65
64
63
05
06
07
08
09
Graveney Marshes
Seasalter Level
(1993 survey
pie-scaled 1-8)

Myriophyllum spicatum

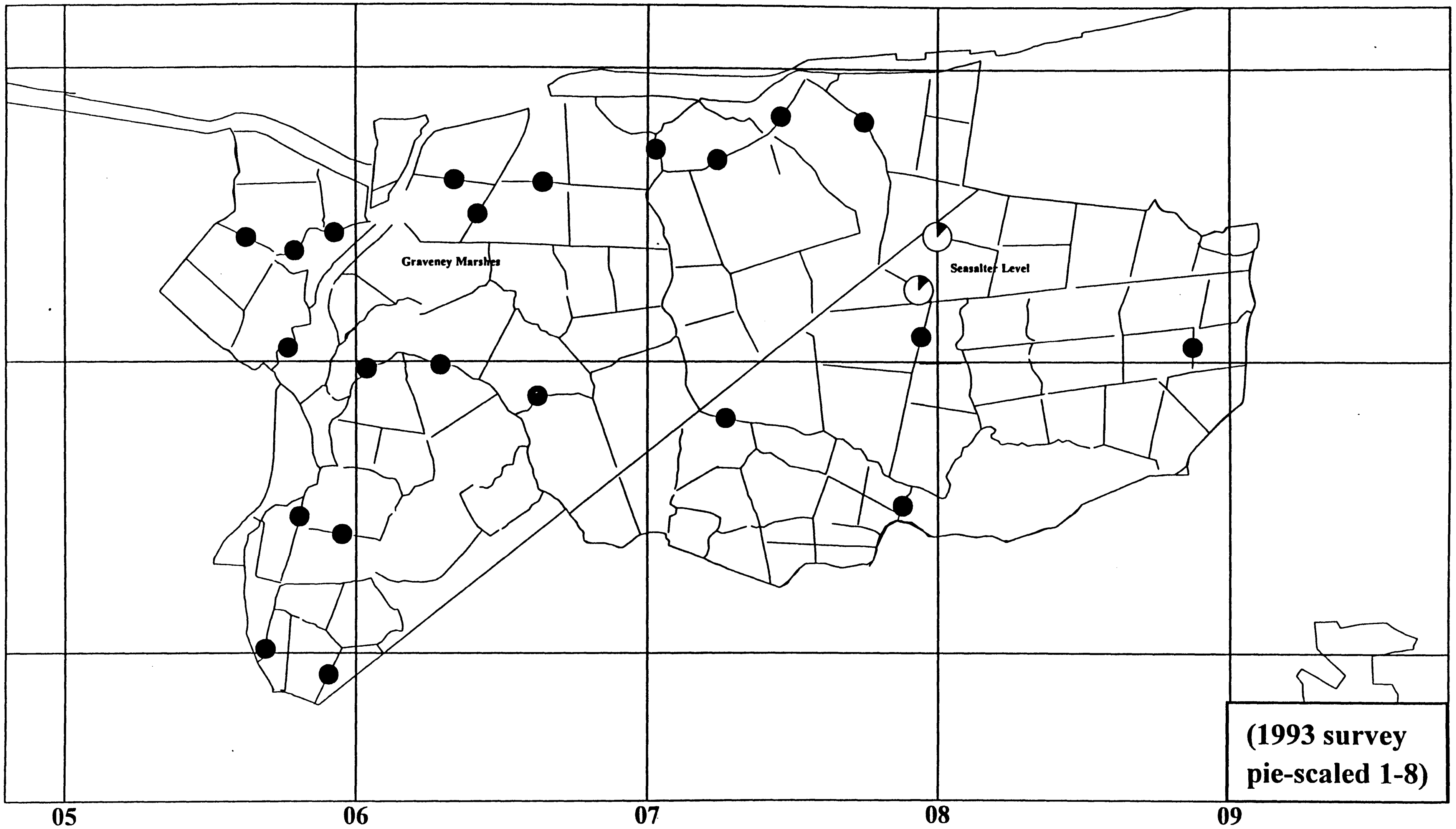


(1993 survey
pie-scaled 1-8)

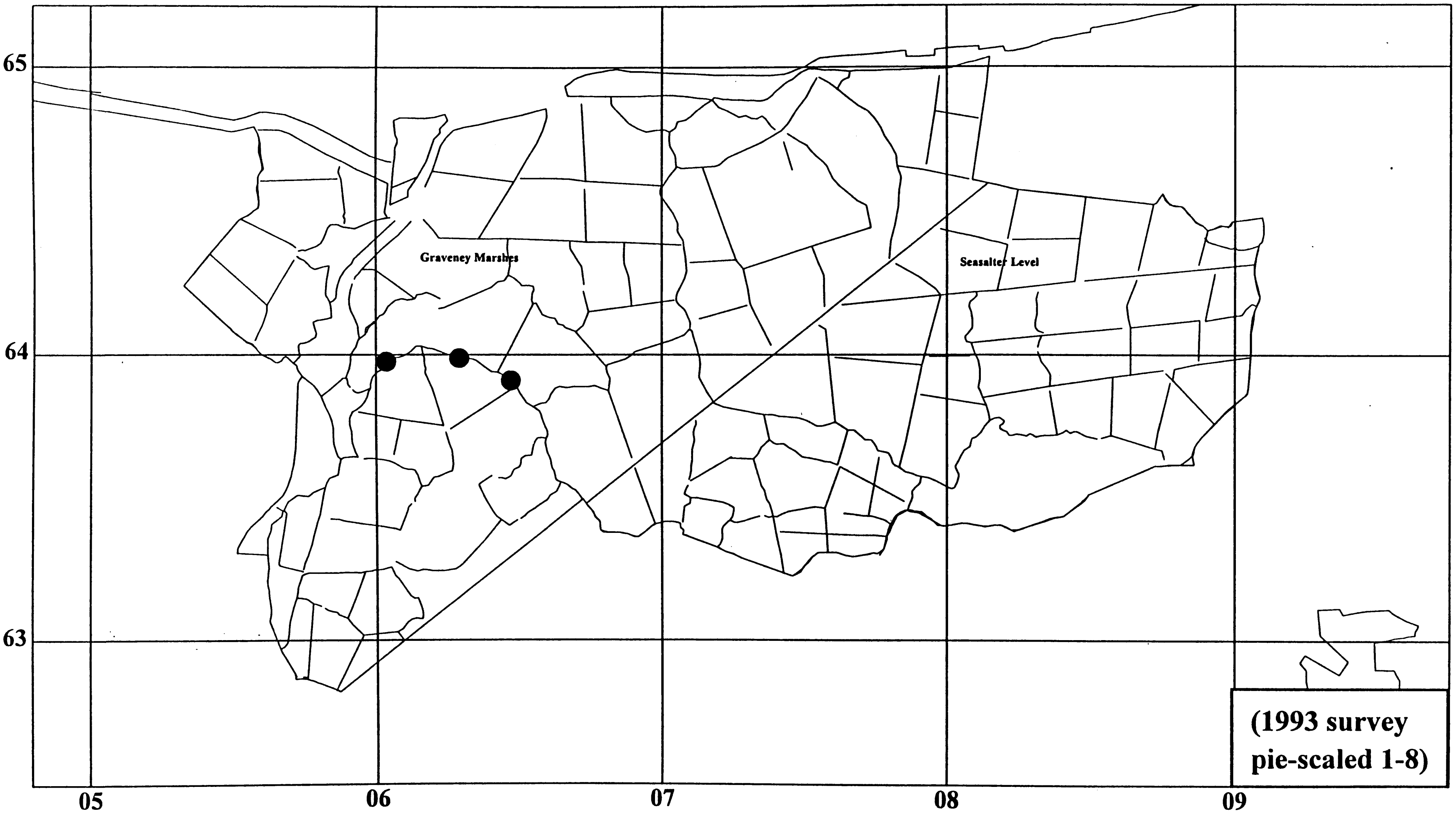
Potamogeton natans



Potamogeton pectinatus

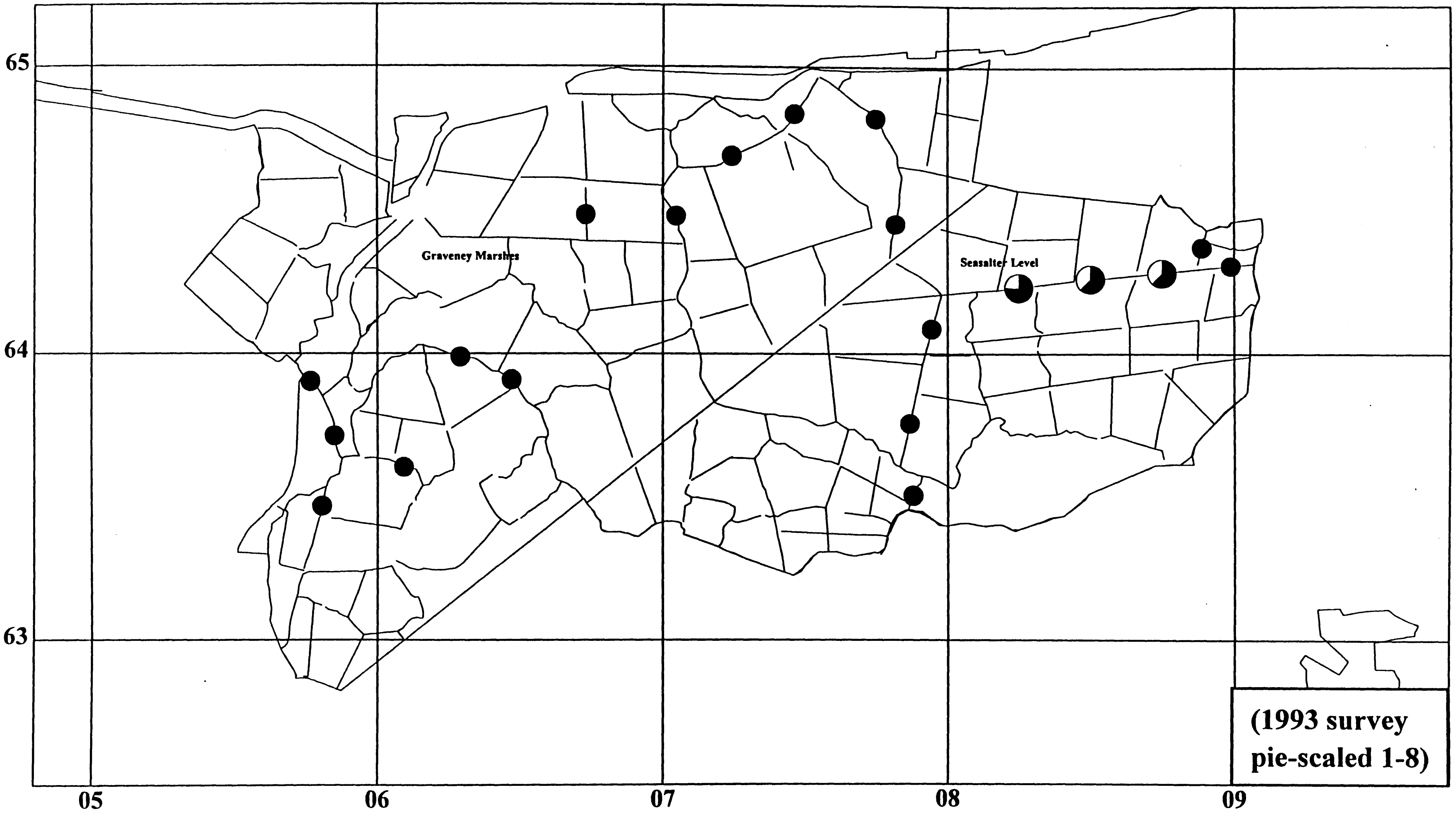


Potamogeton pusillus/berchtoldii



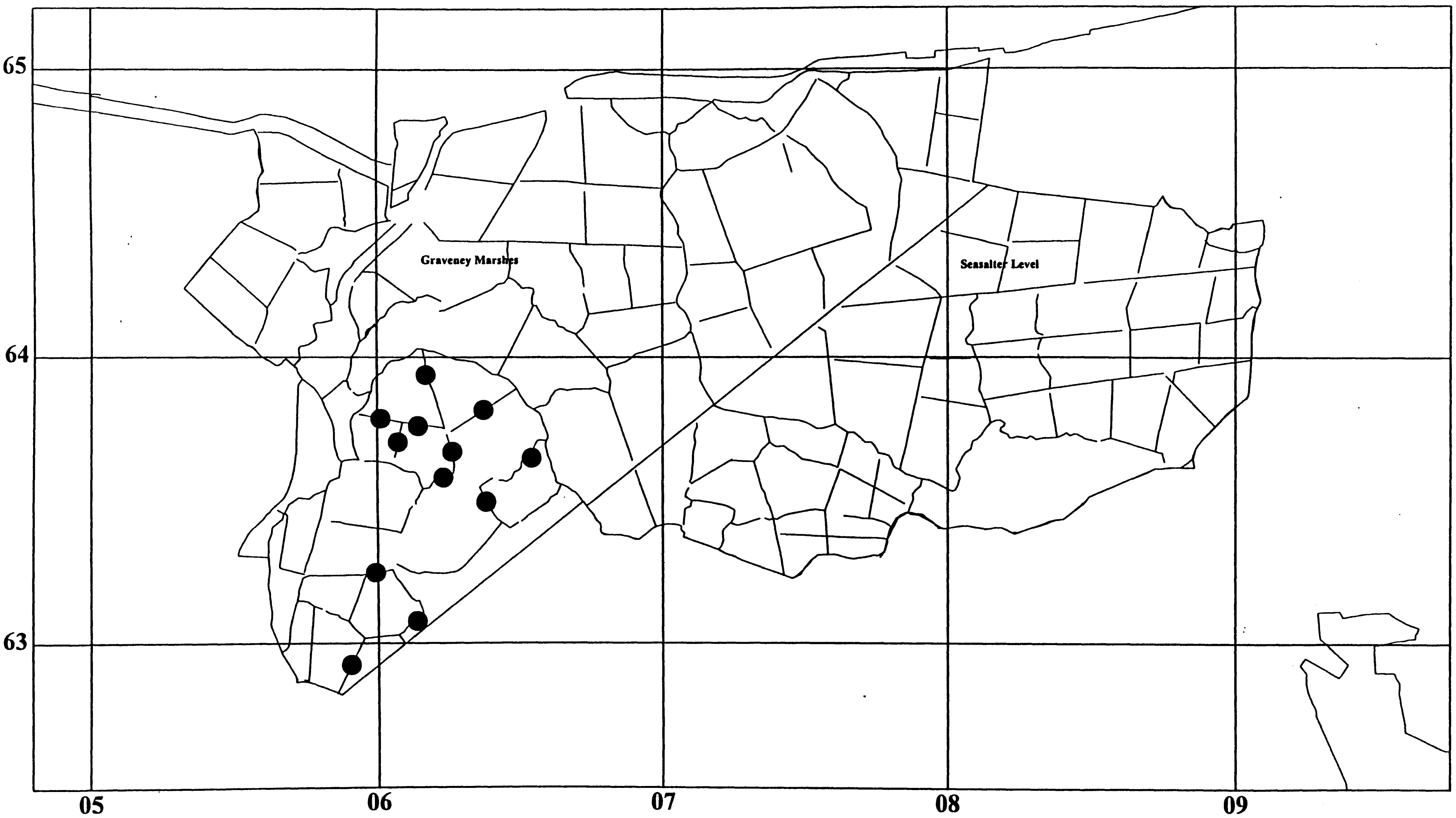
(1993 survey
pie-scaled 1-8)

Spirodela polyrhiza

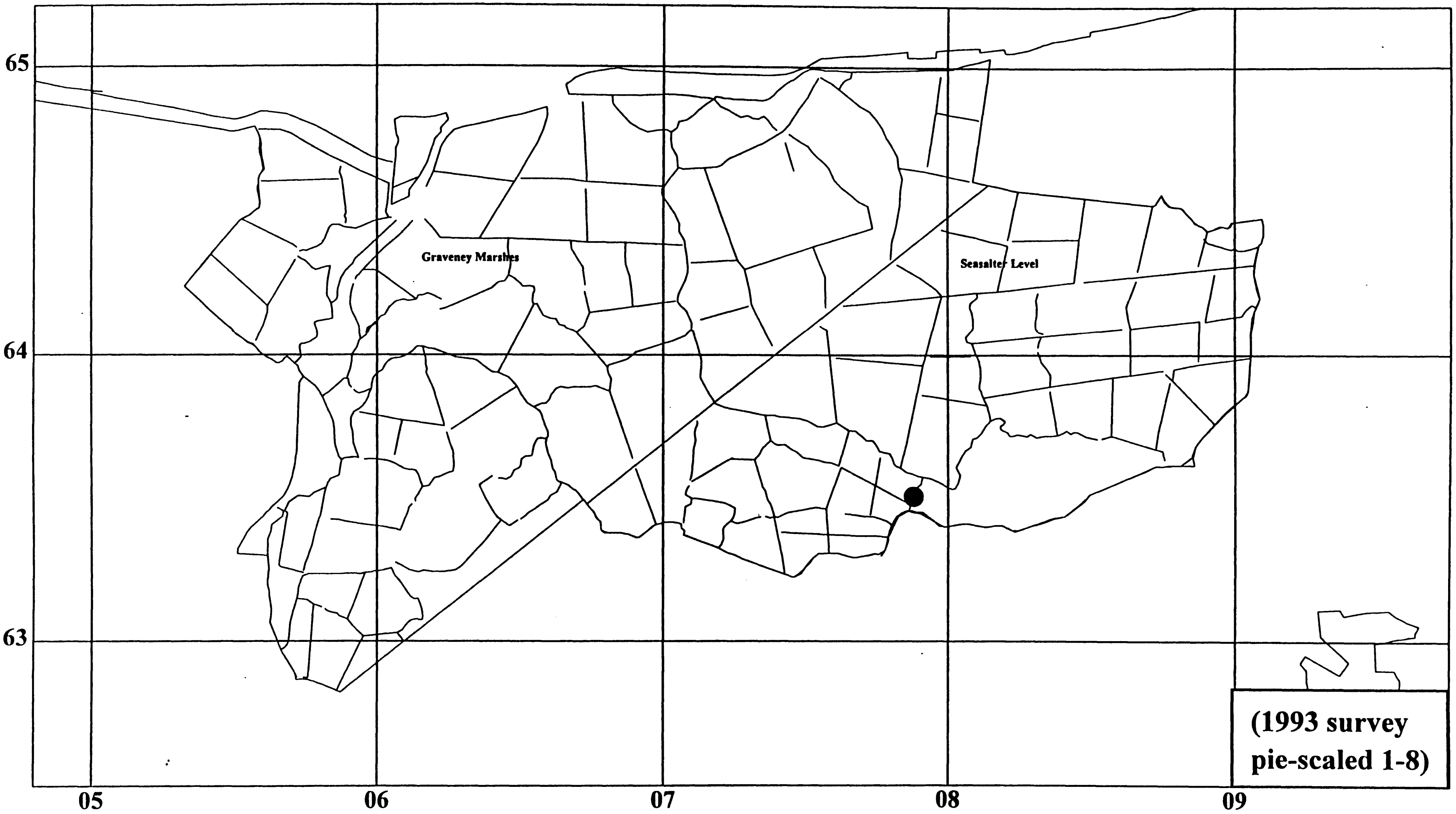


(1993 survey
pie-scaled 1-8)

Utricularia vulgaris

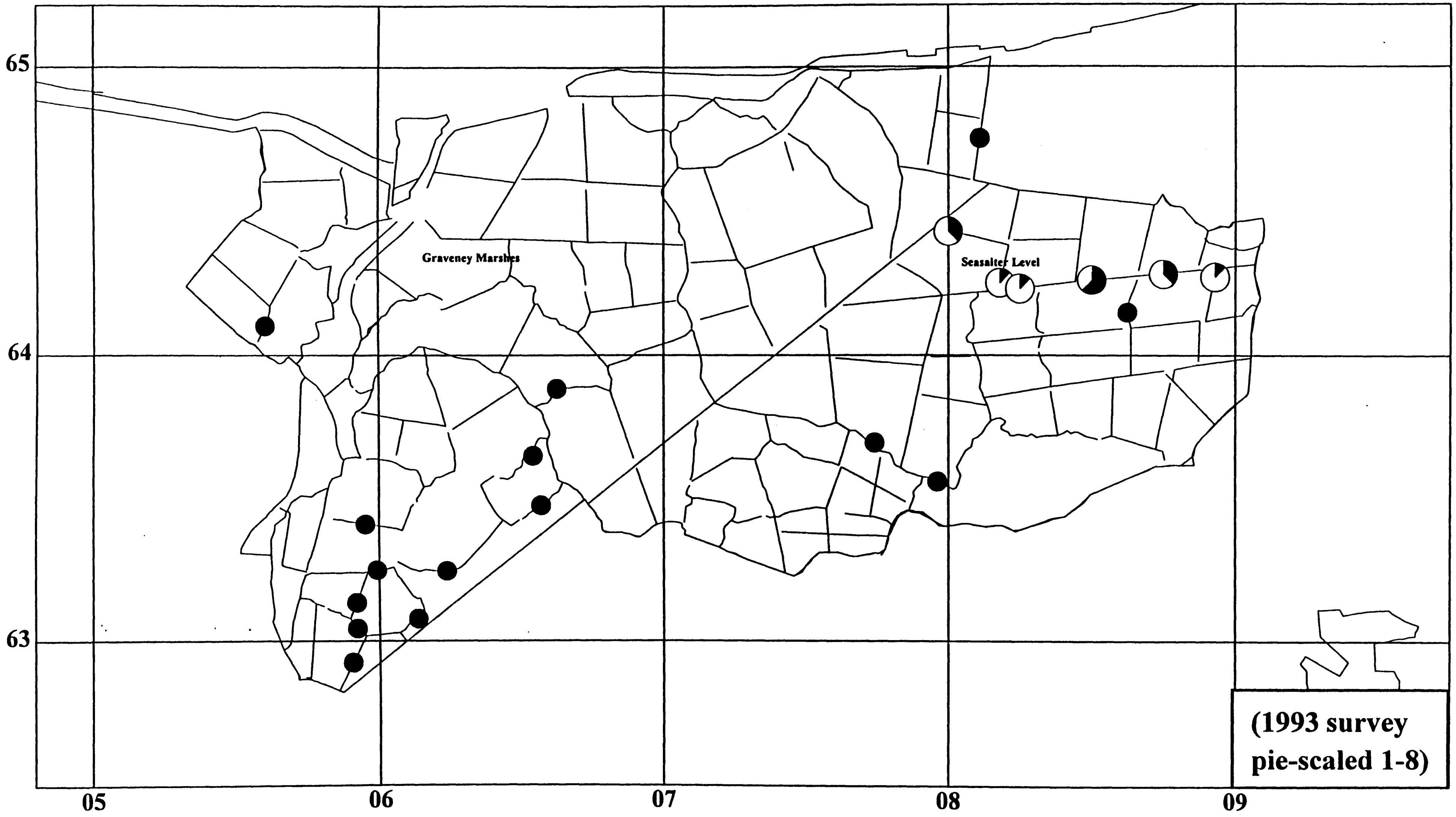


Zannichellia palustris

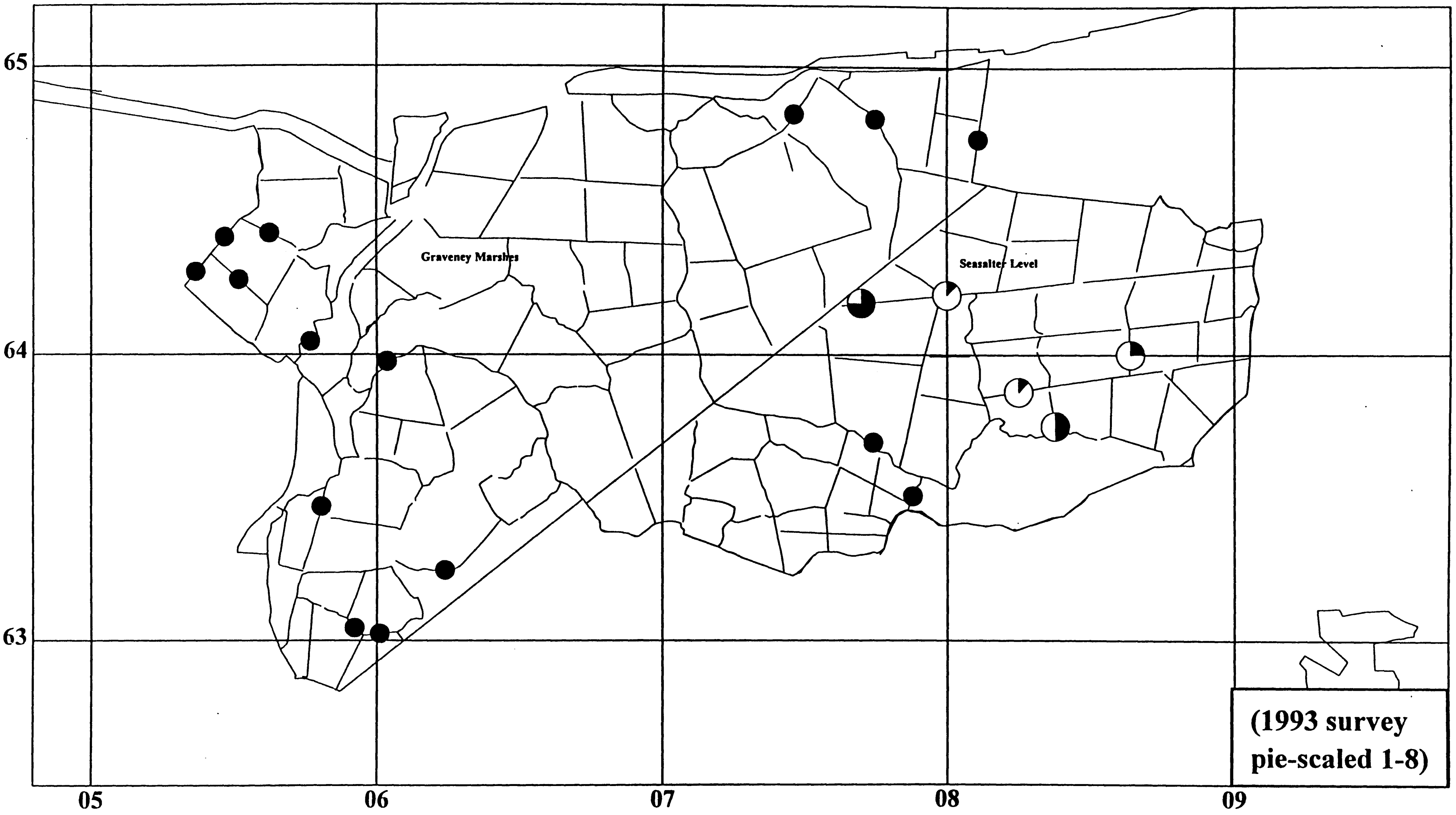


(1993 survey pie-scaled 1-8)

Alisma plantago-aquatica

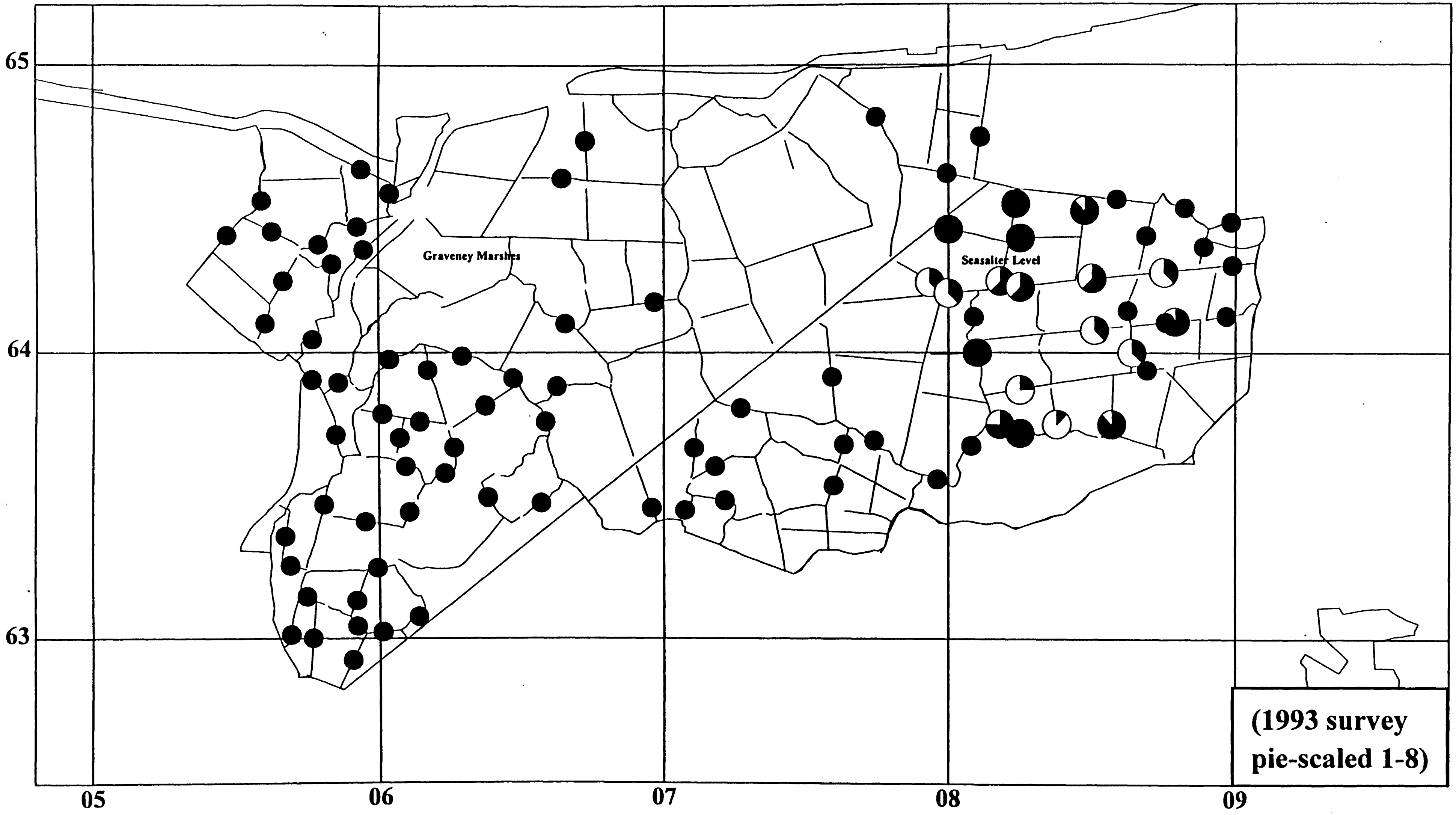


Apium nodiflorum

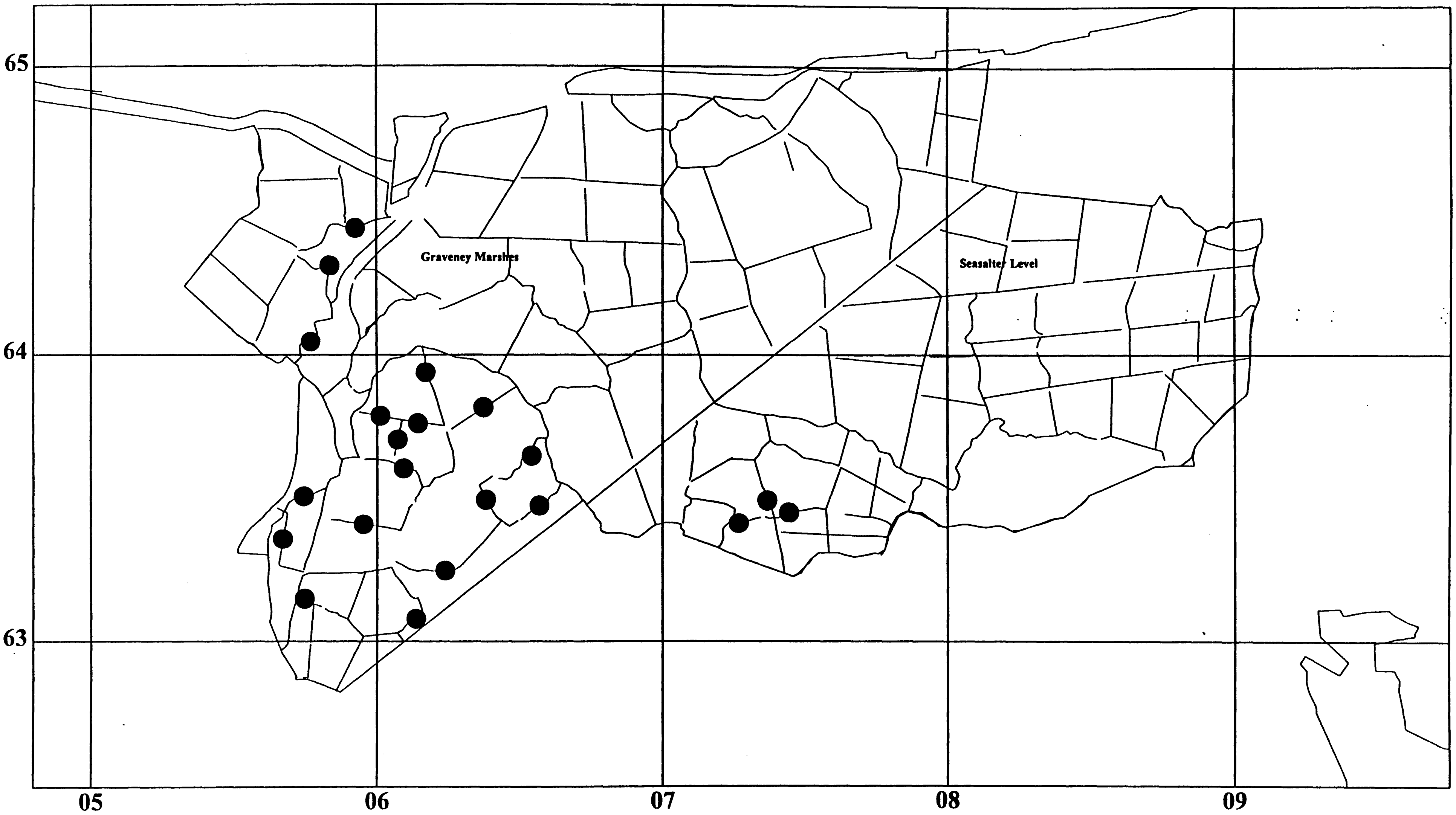


(1993 survey
pie-scaled 1-8)

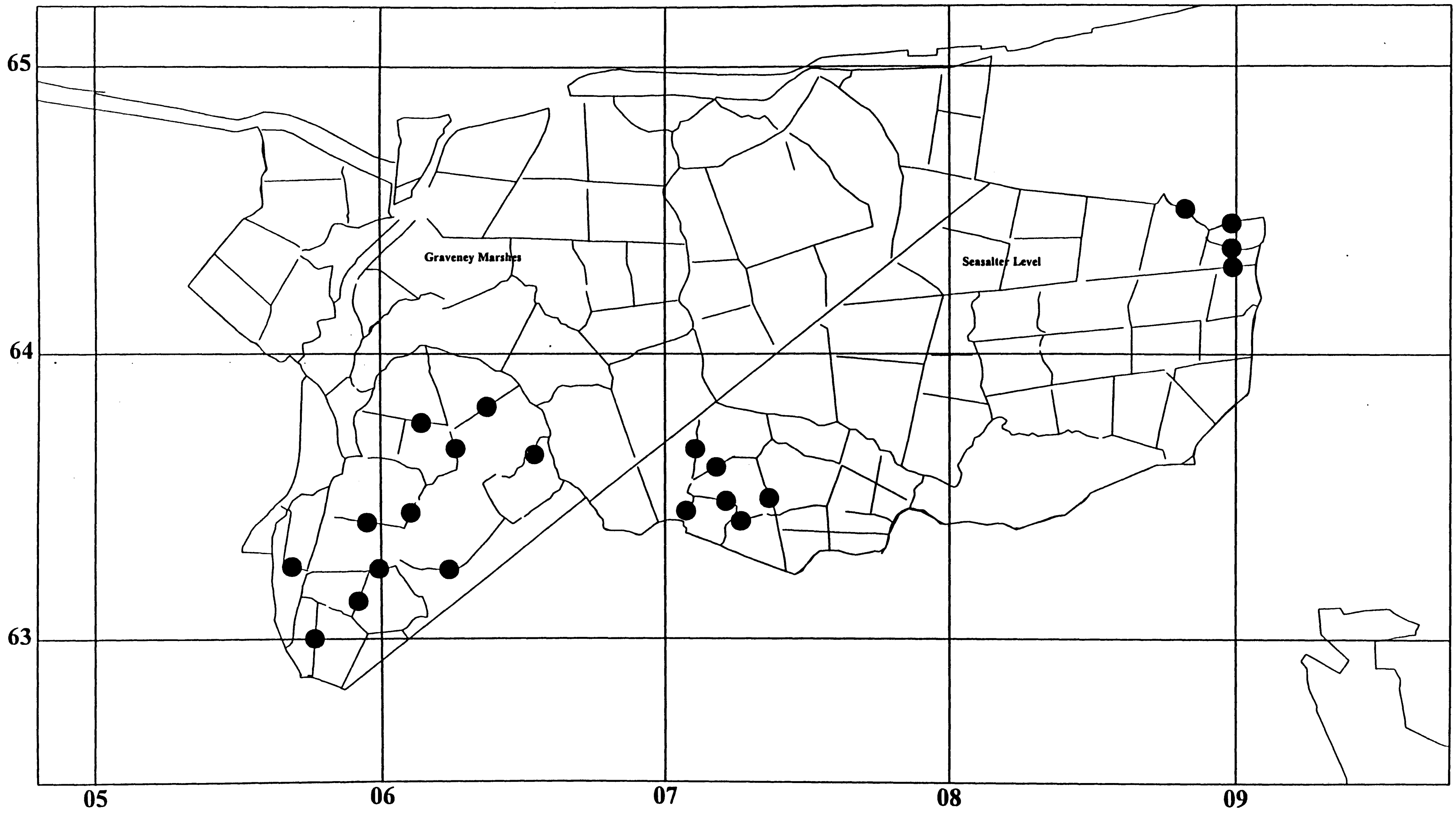
Berula erecta



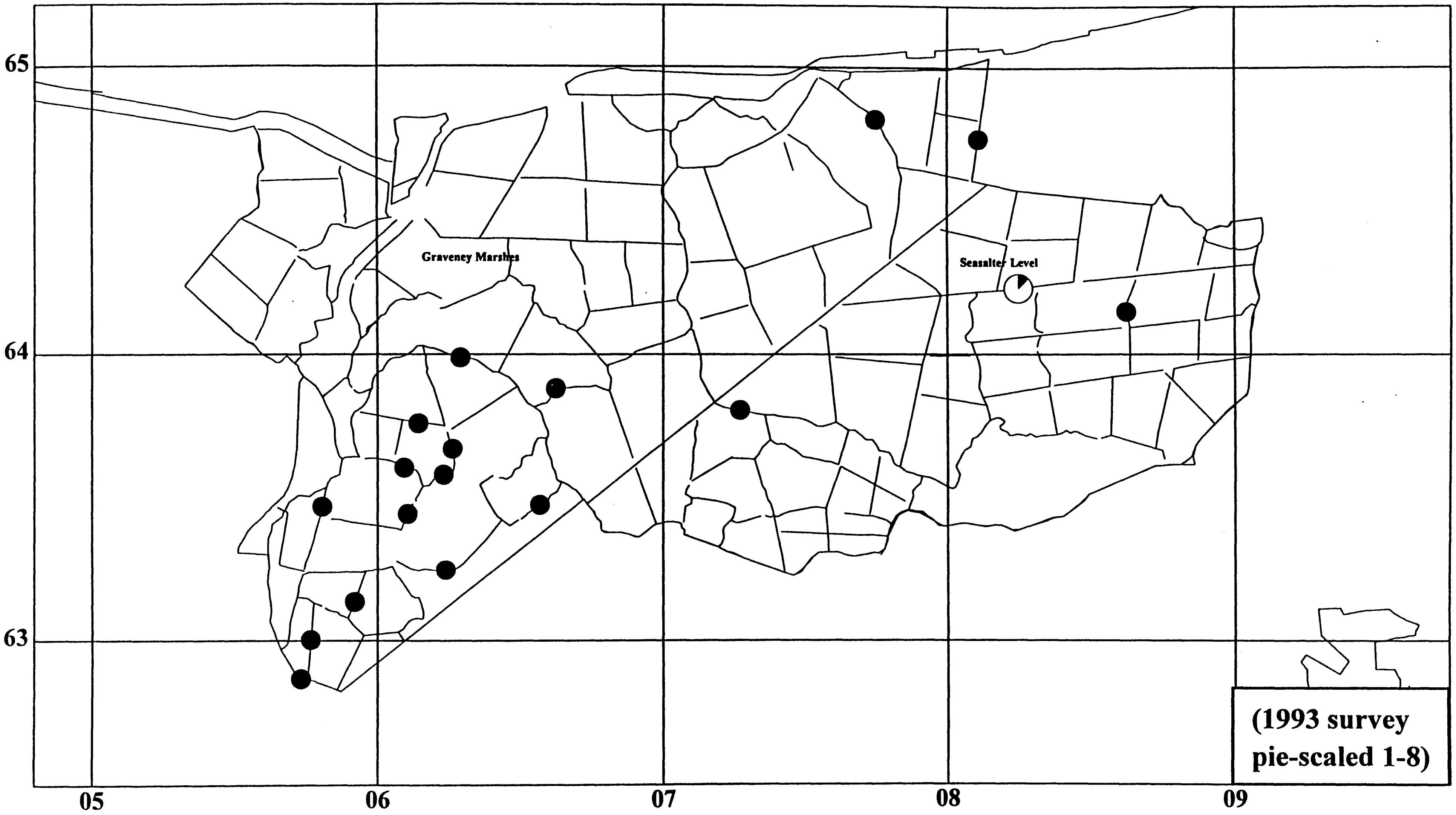
Carex riparia



Equisetum fluviatile

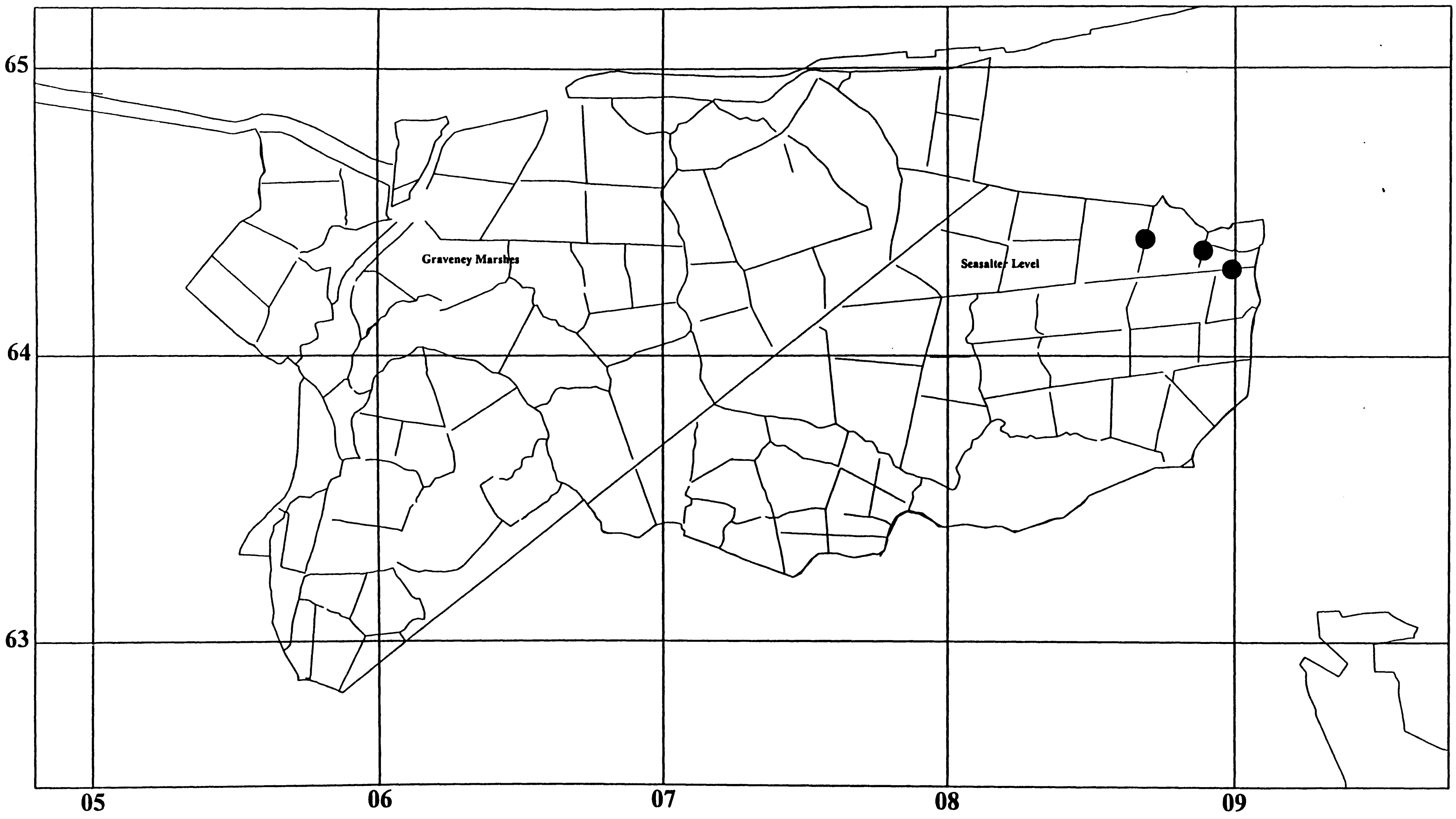


Nasturtium officinale agg

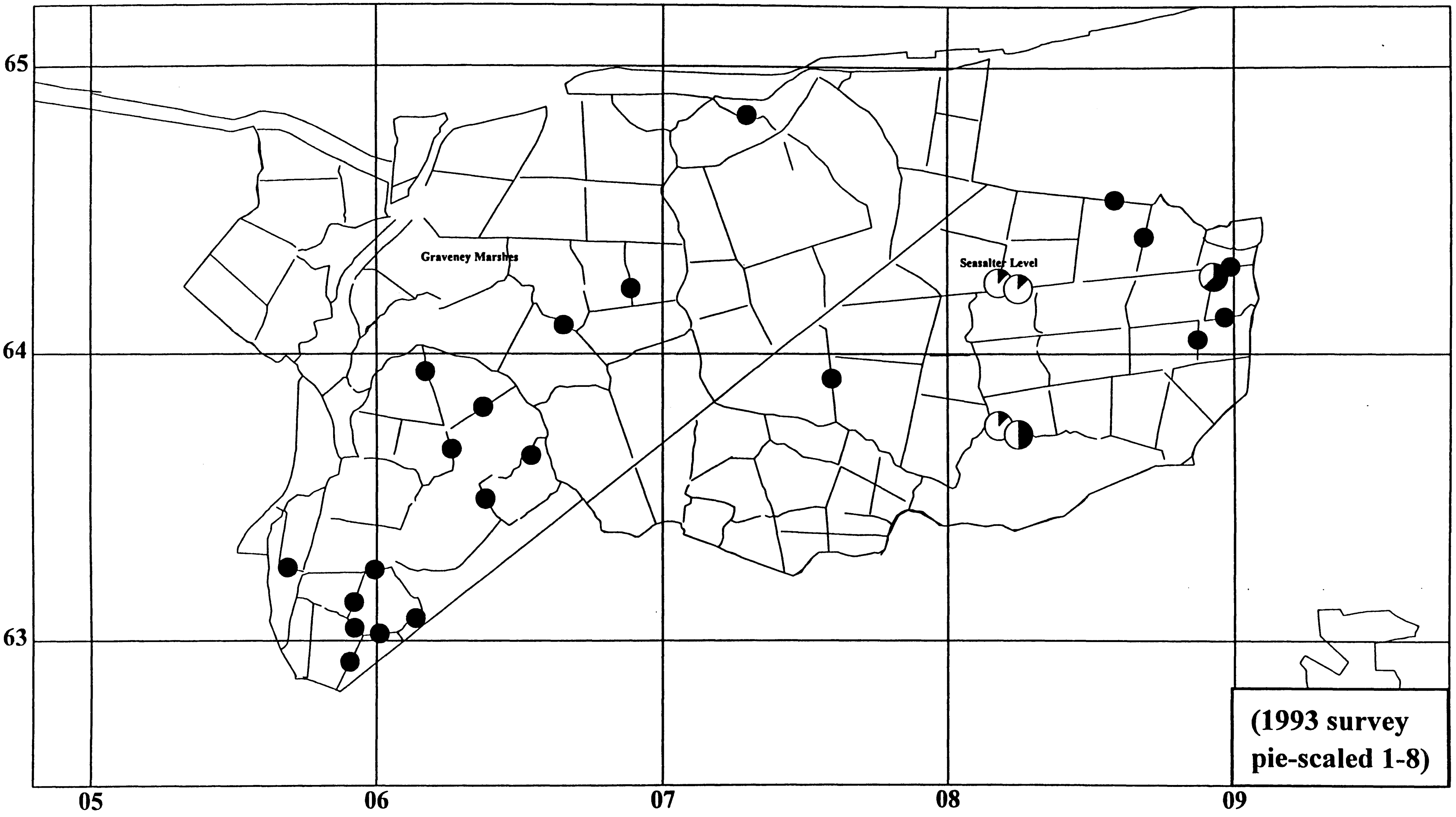


(1993 survey
pie-scaled 1-8)

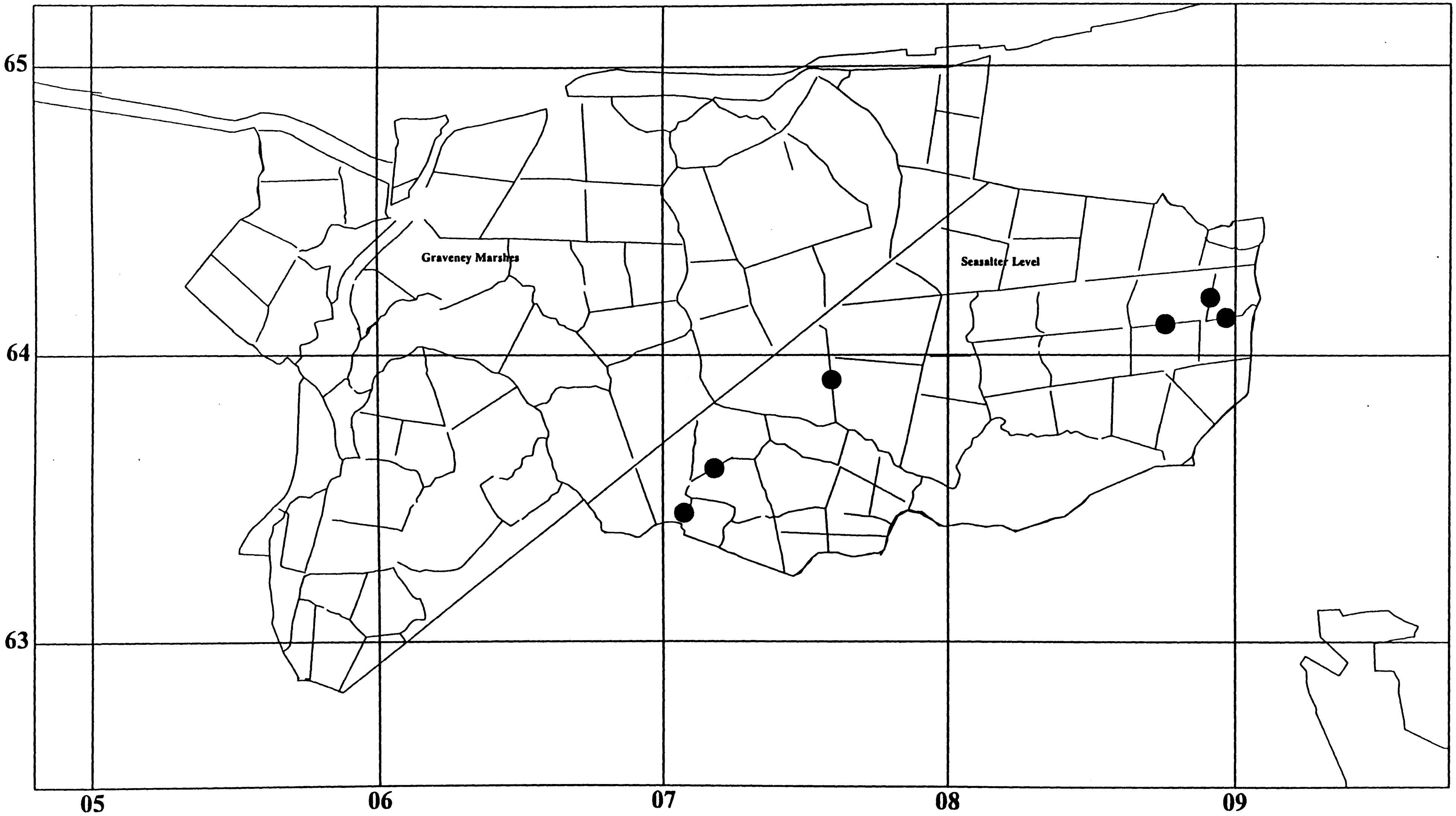
Oenanthe aquatica



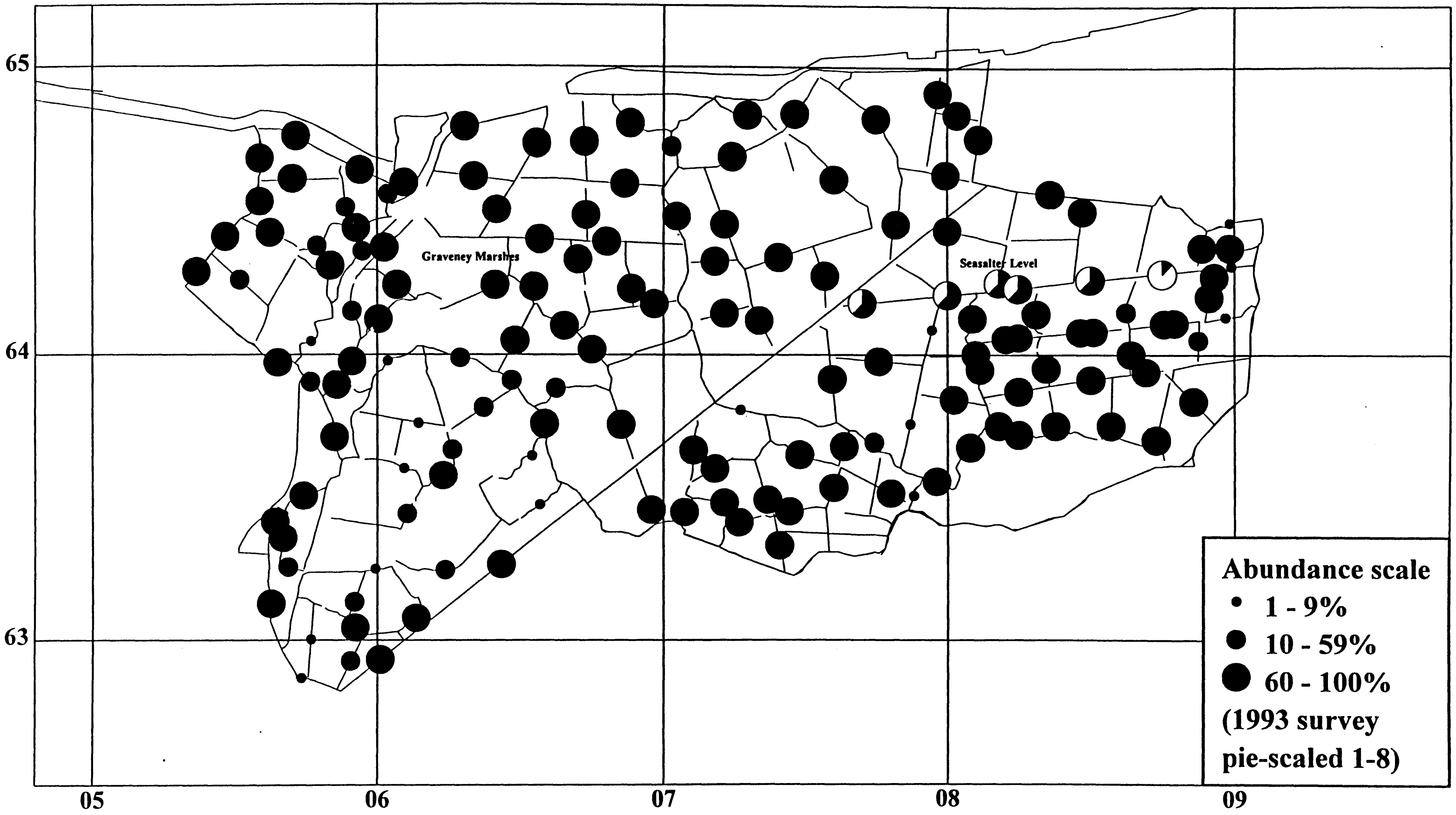
Oenanthe fistulosa



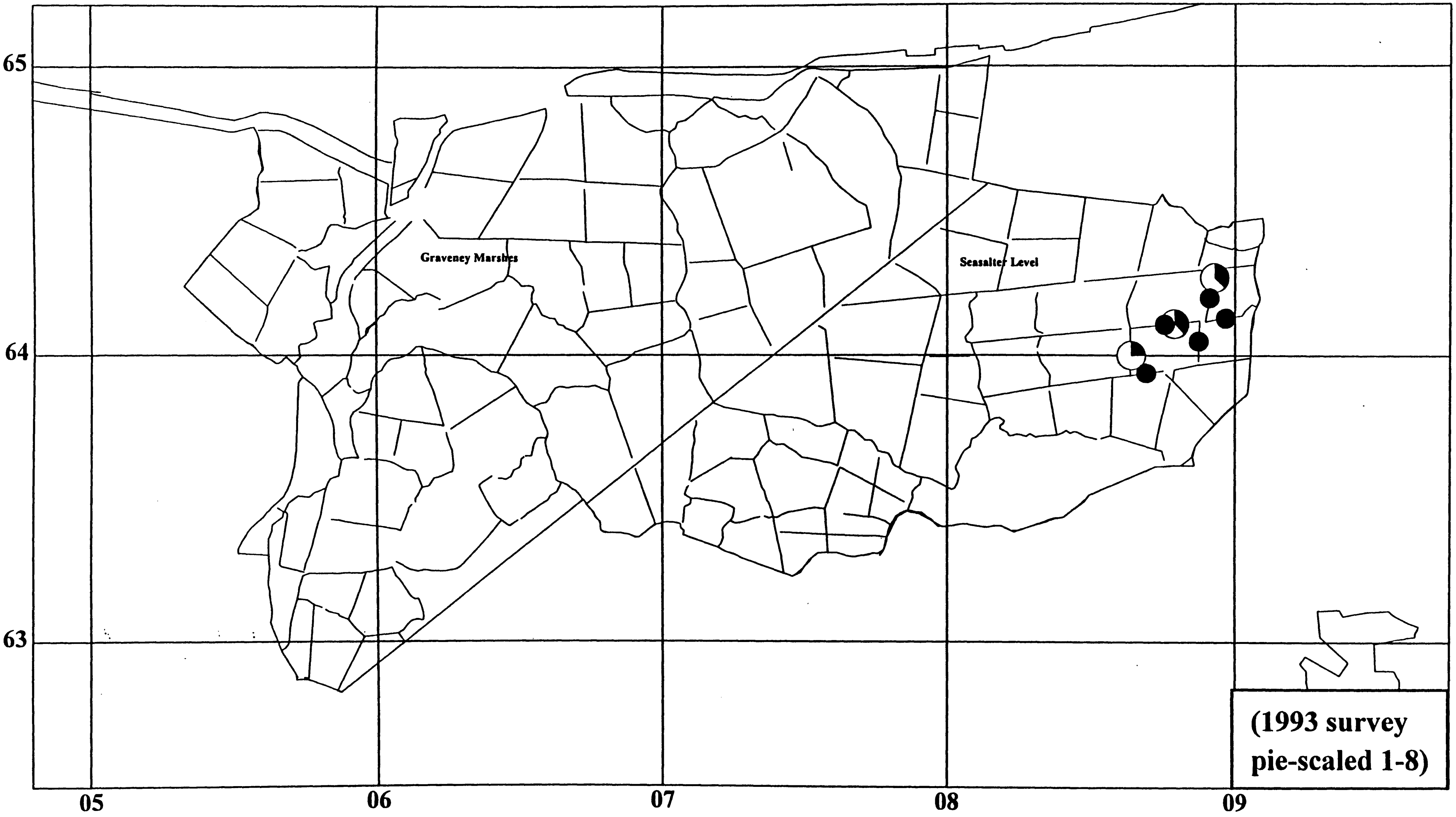
Oenanthe silaifolia



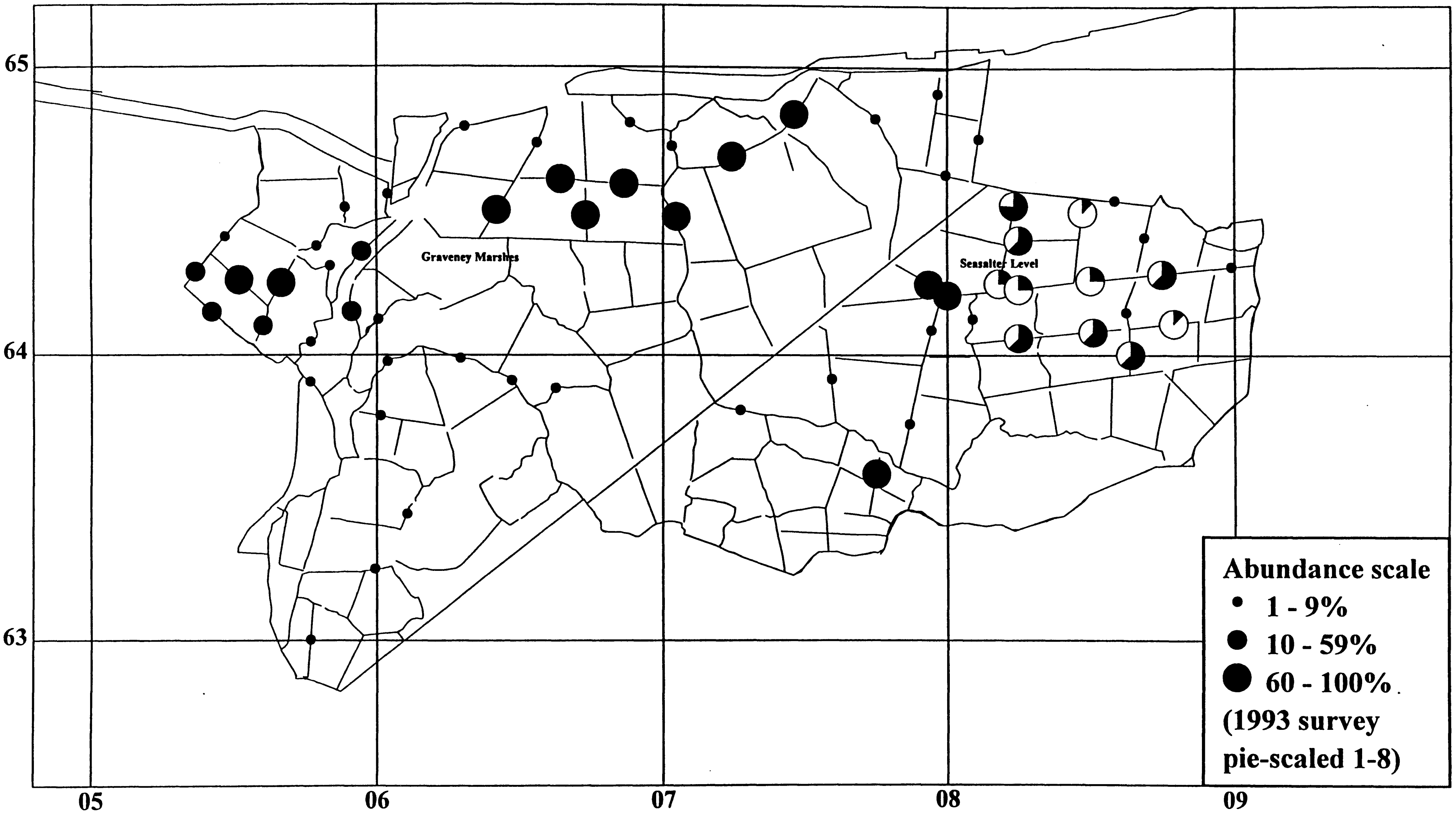
Phragmites australis



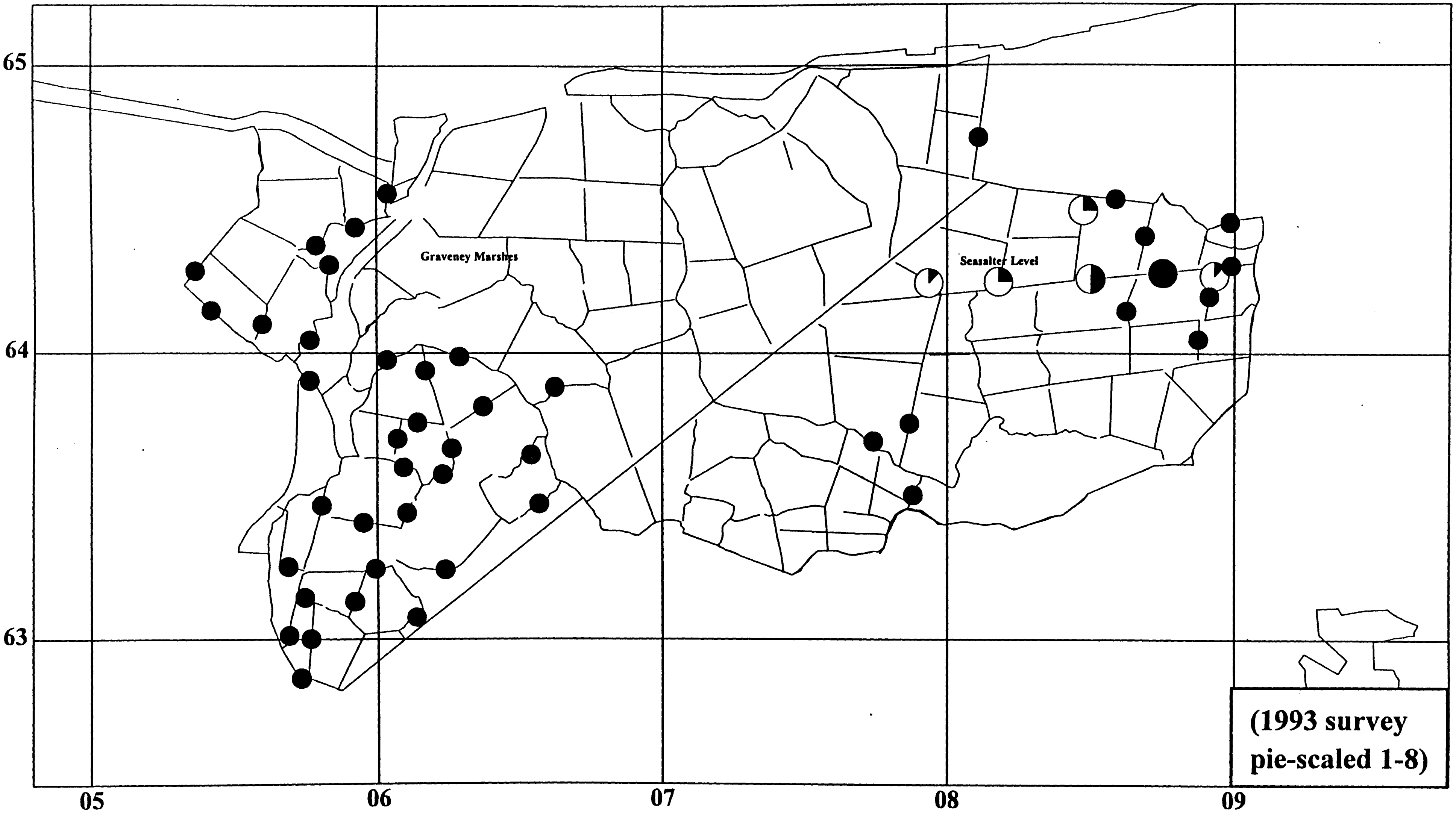
Rumex hydrolapathum



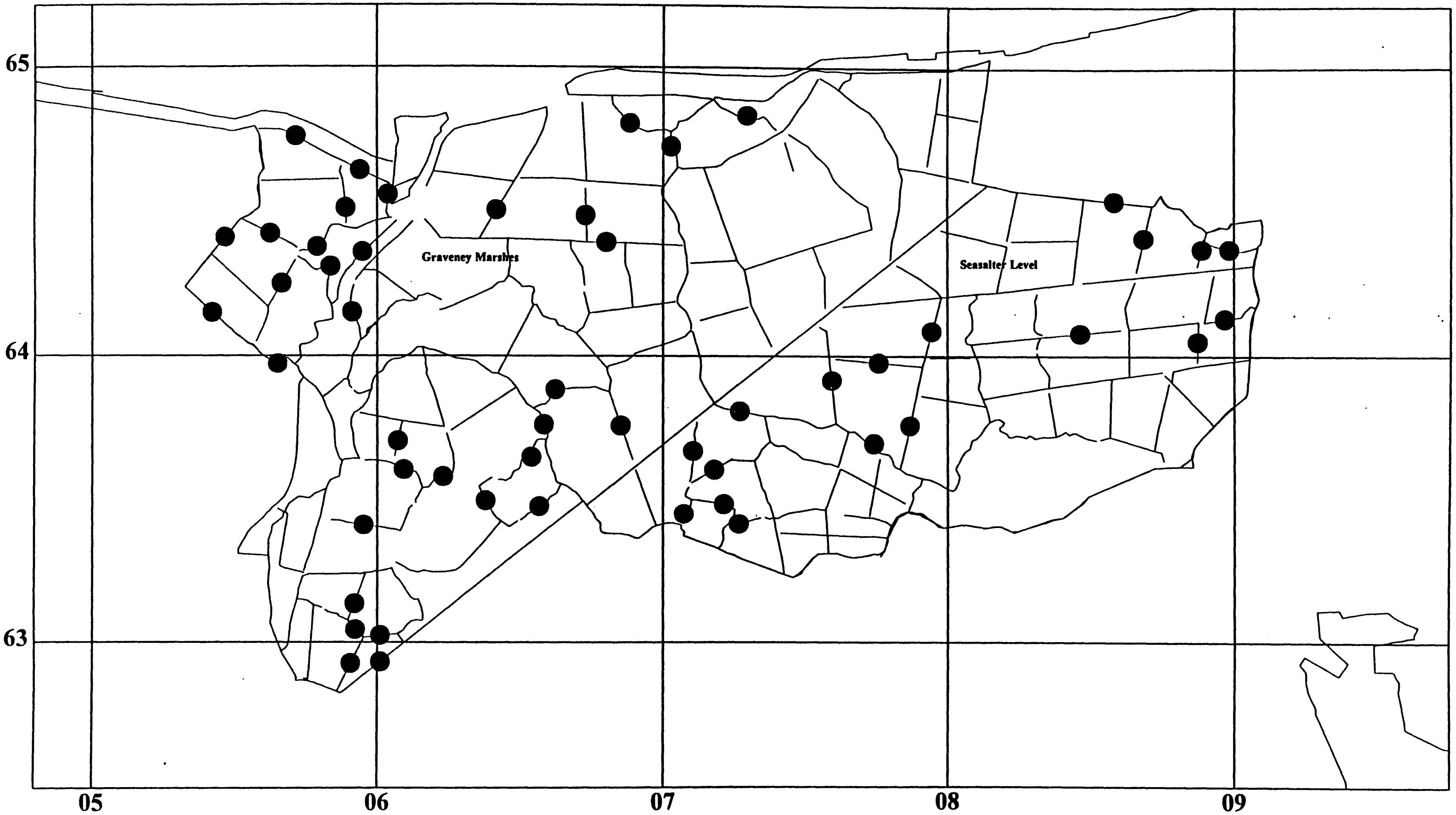
Scirpus maritimus



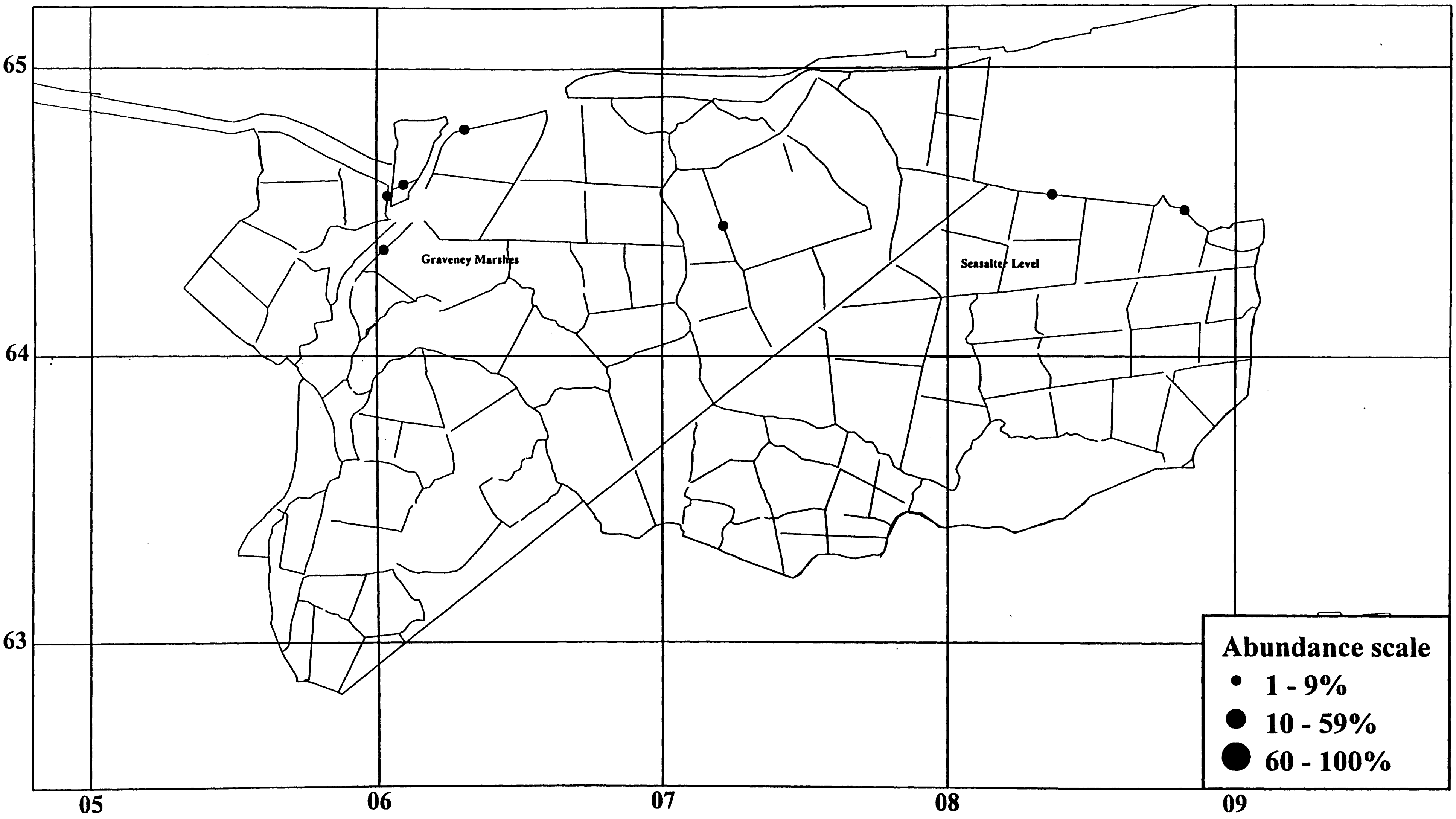
Sparganium erectum



Carex divisa

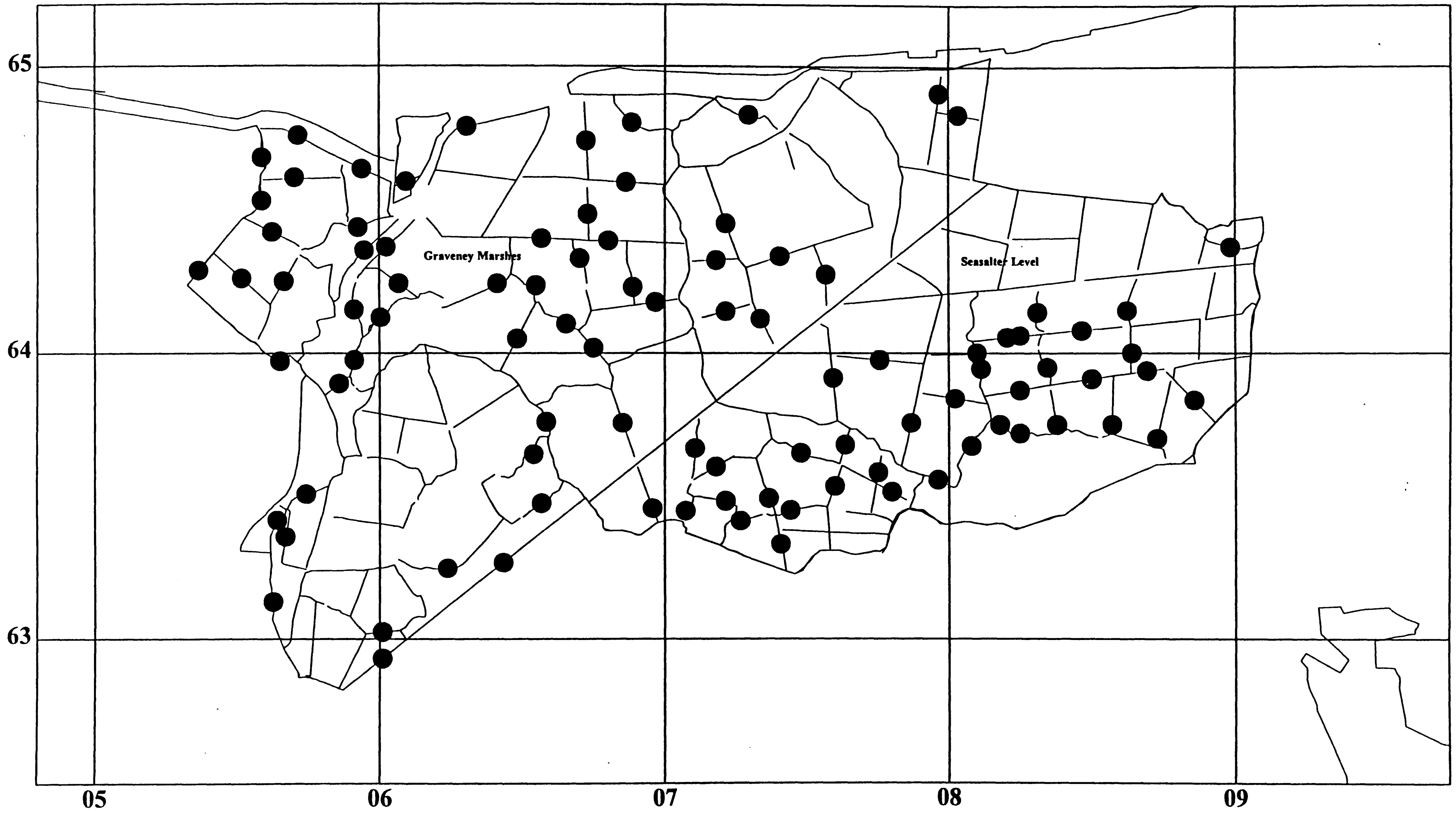


Scrub cover

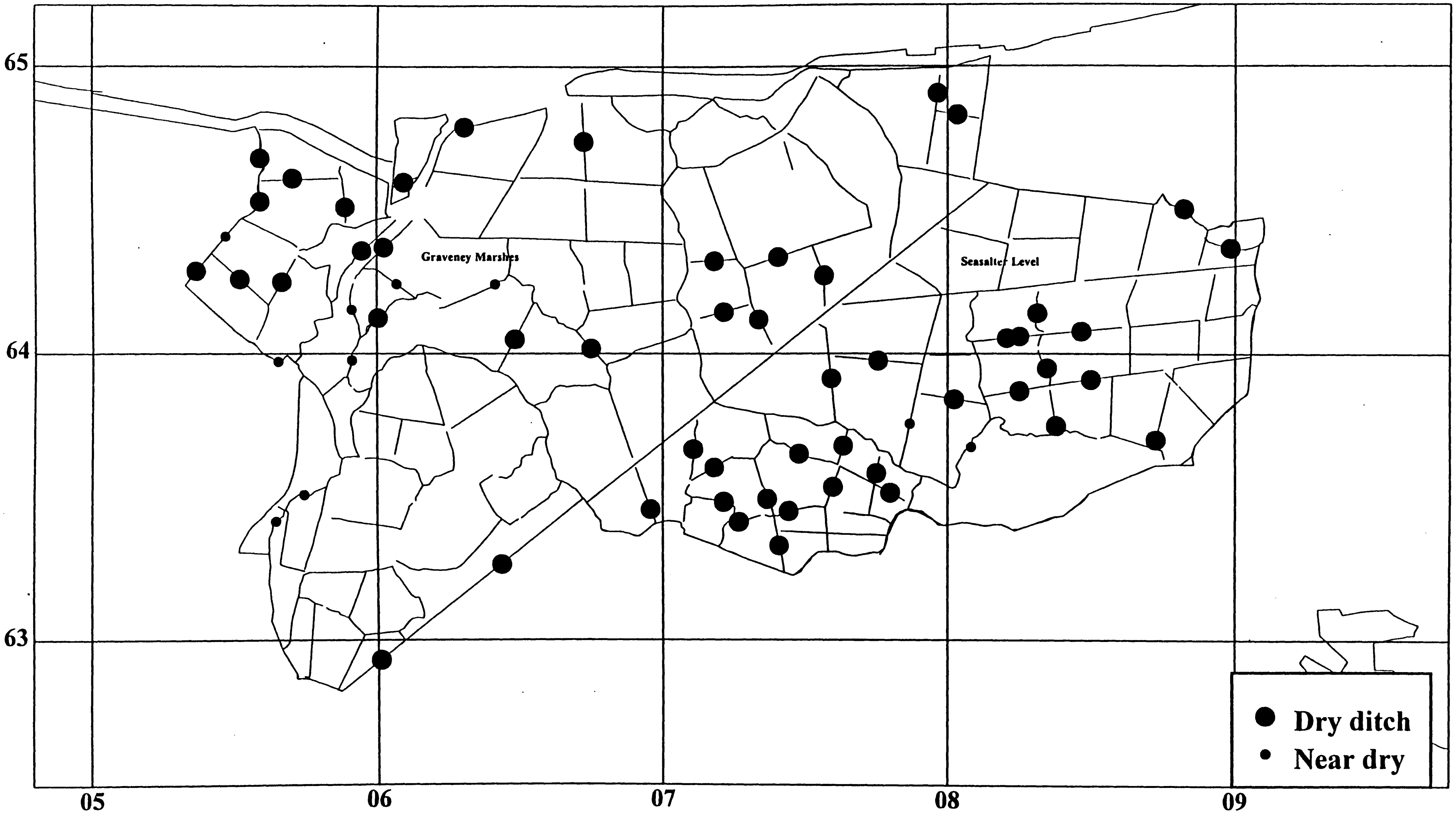


65
64
63
05
06
07
08
09
Graveney Marshes
Seasalter Level
Abundance scale
• 1 - 9%
● 10 - 59%
⬤ 60 - 100%

Ditch choked



Ditch dry


65
64
63
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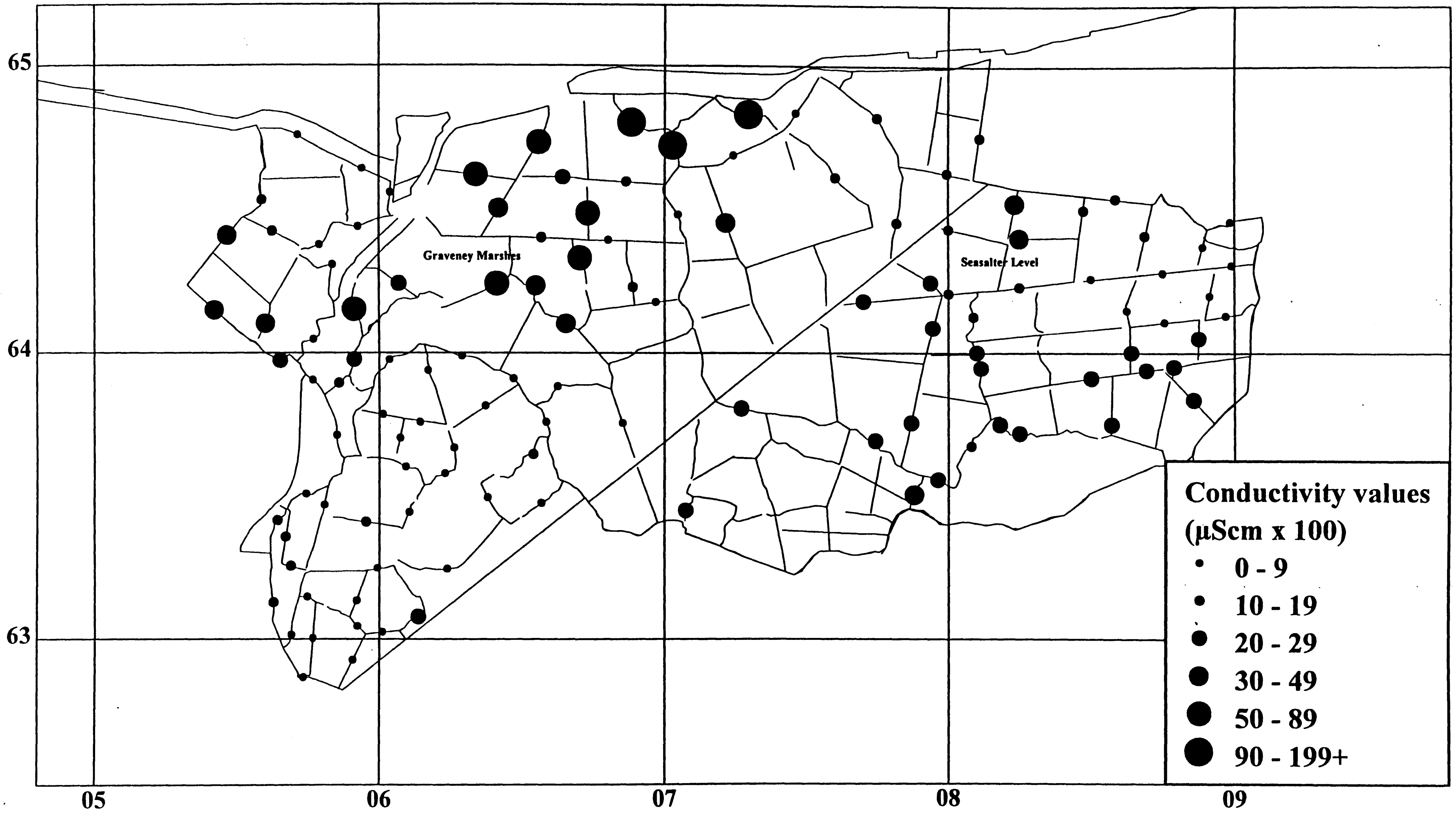
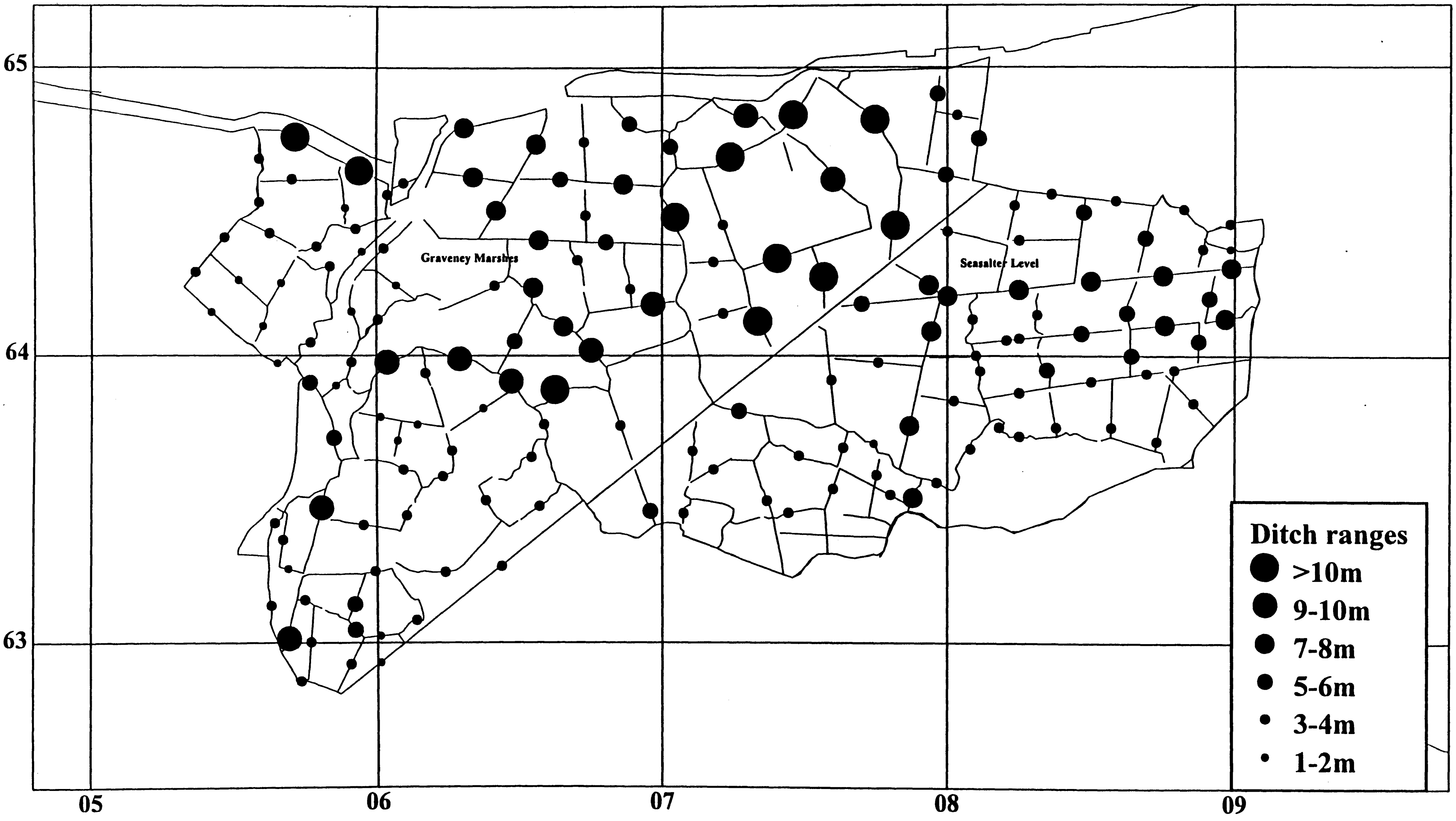
08
09
Graveney Marshes
Seasalter Level
● Dry ditch
• Near dry

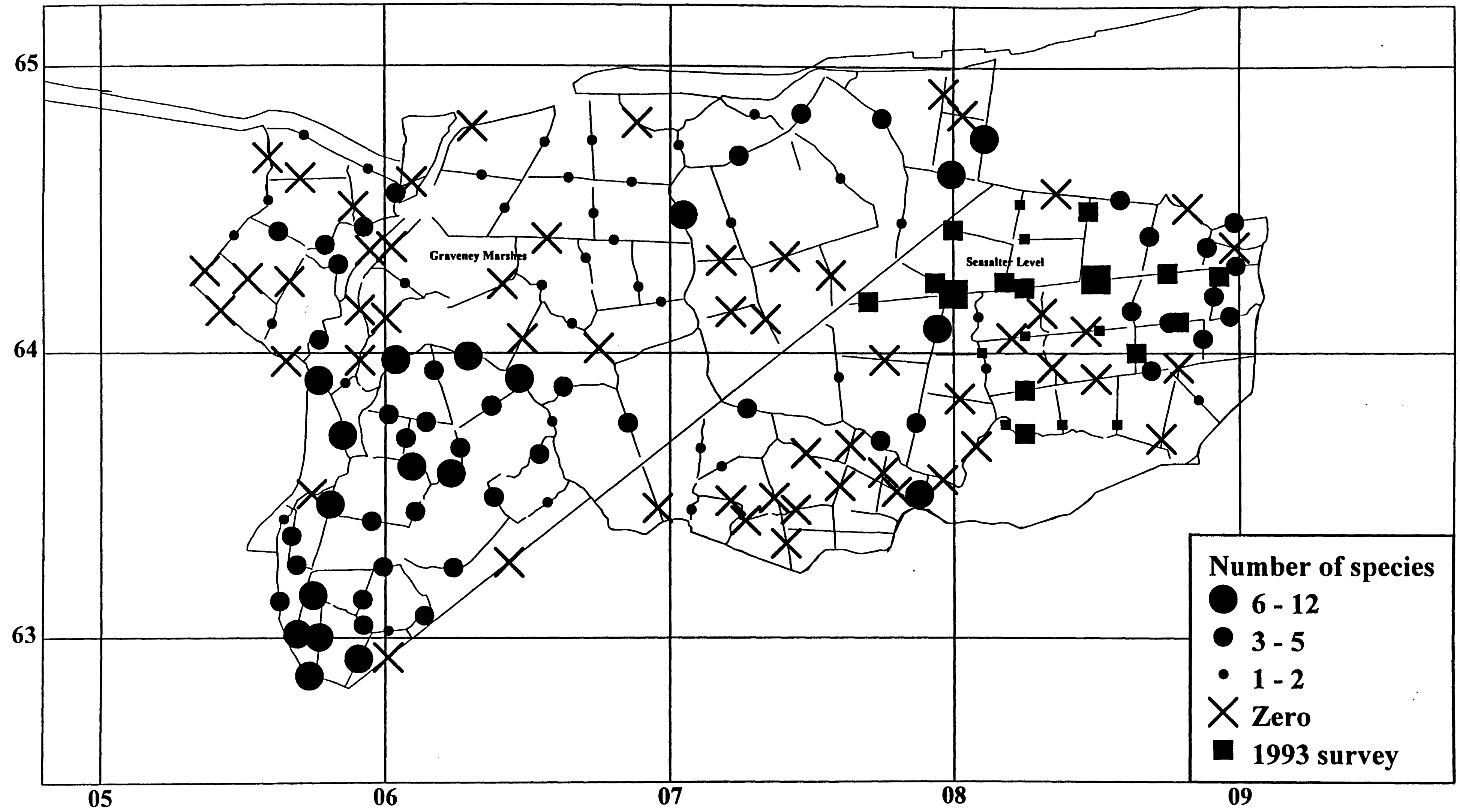
Conductivity values



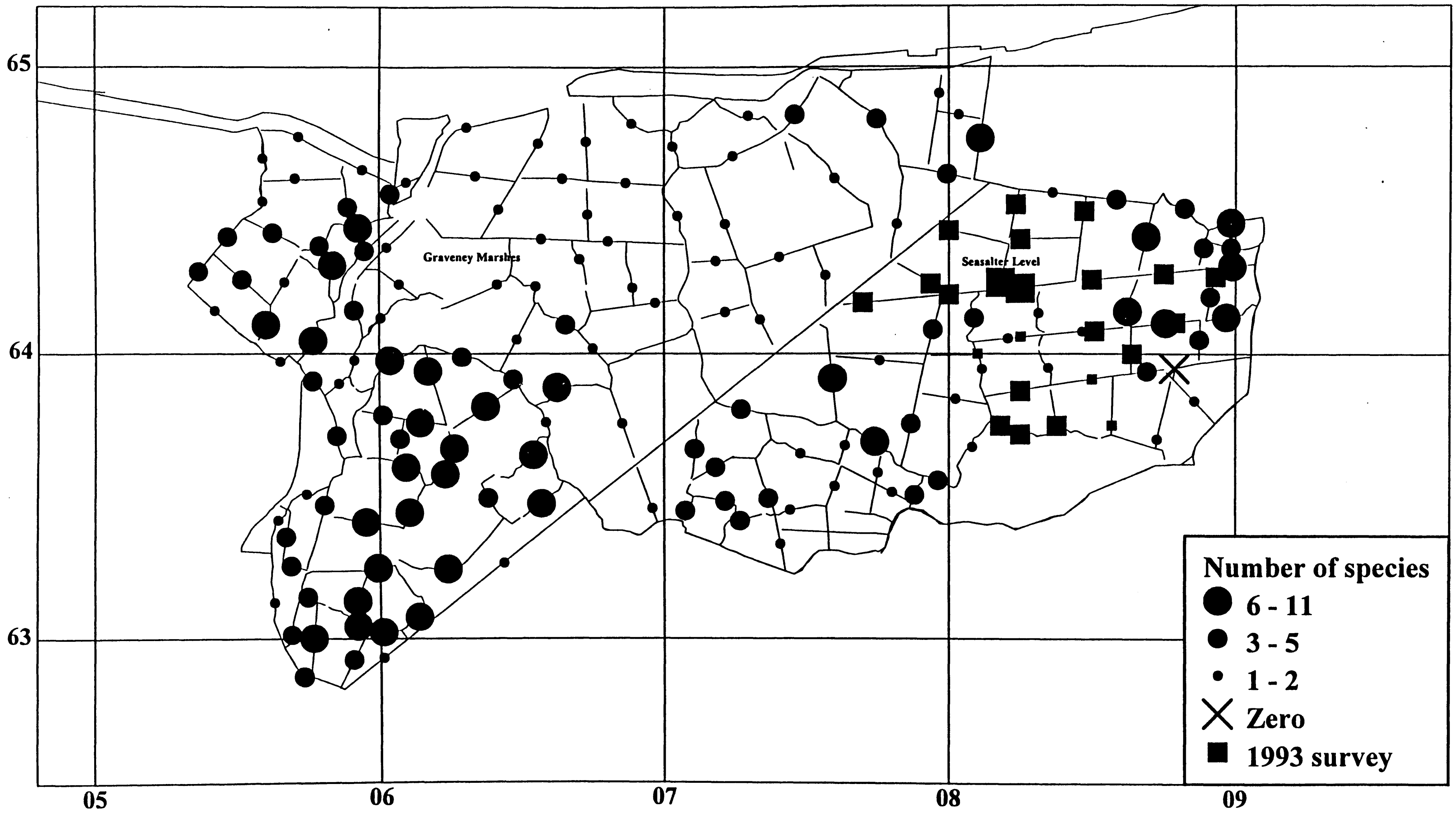
Ditch widths



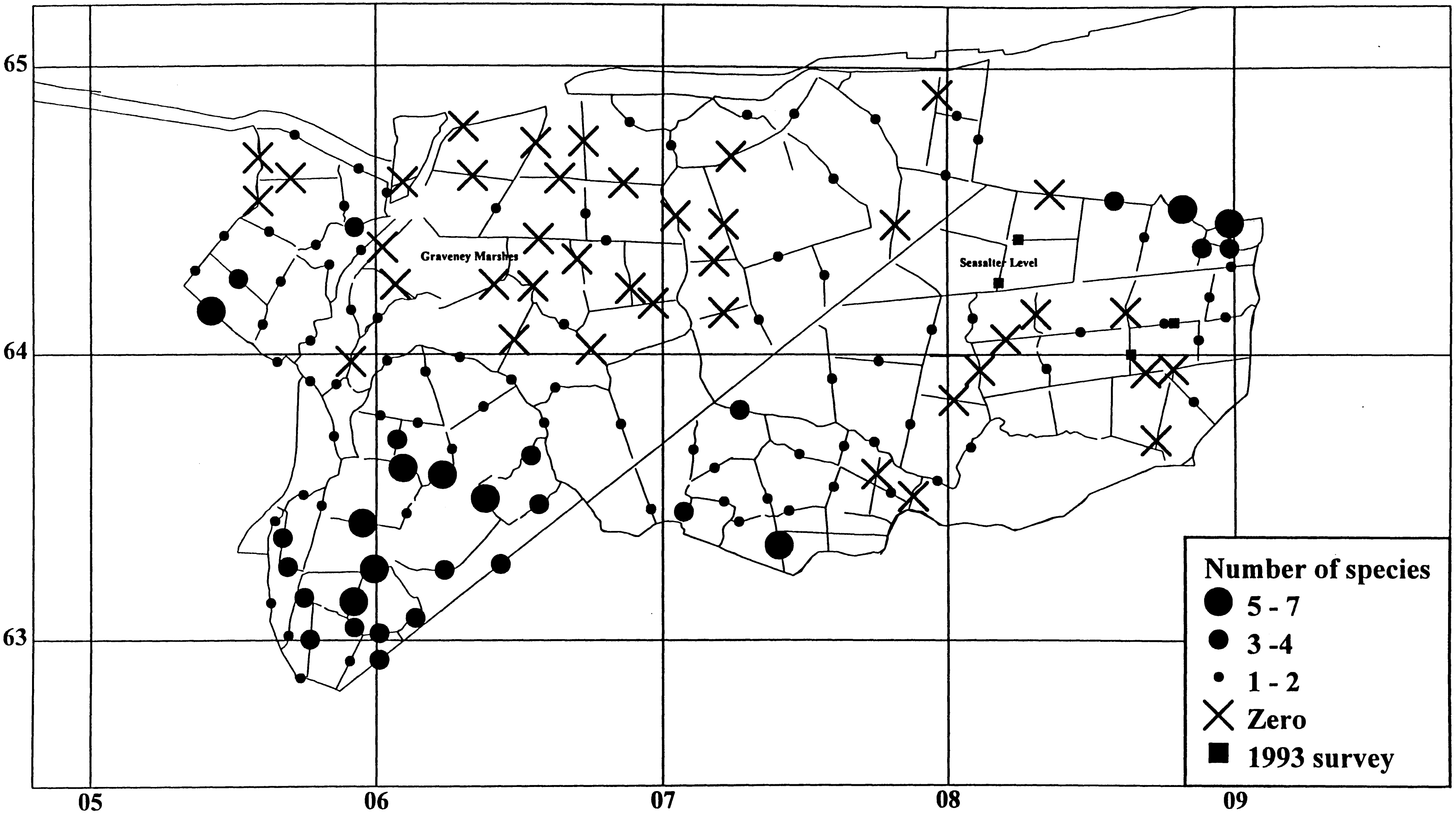
Number of aquatic species



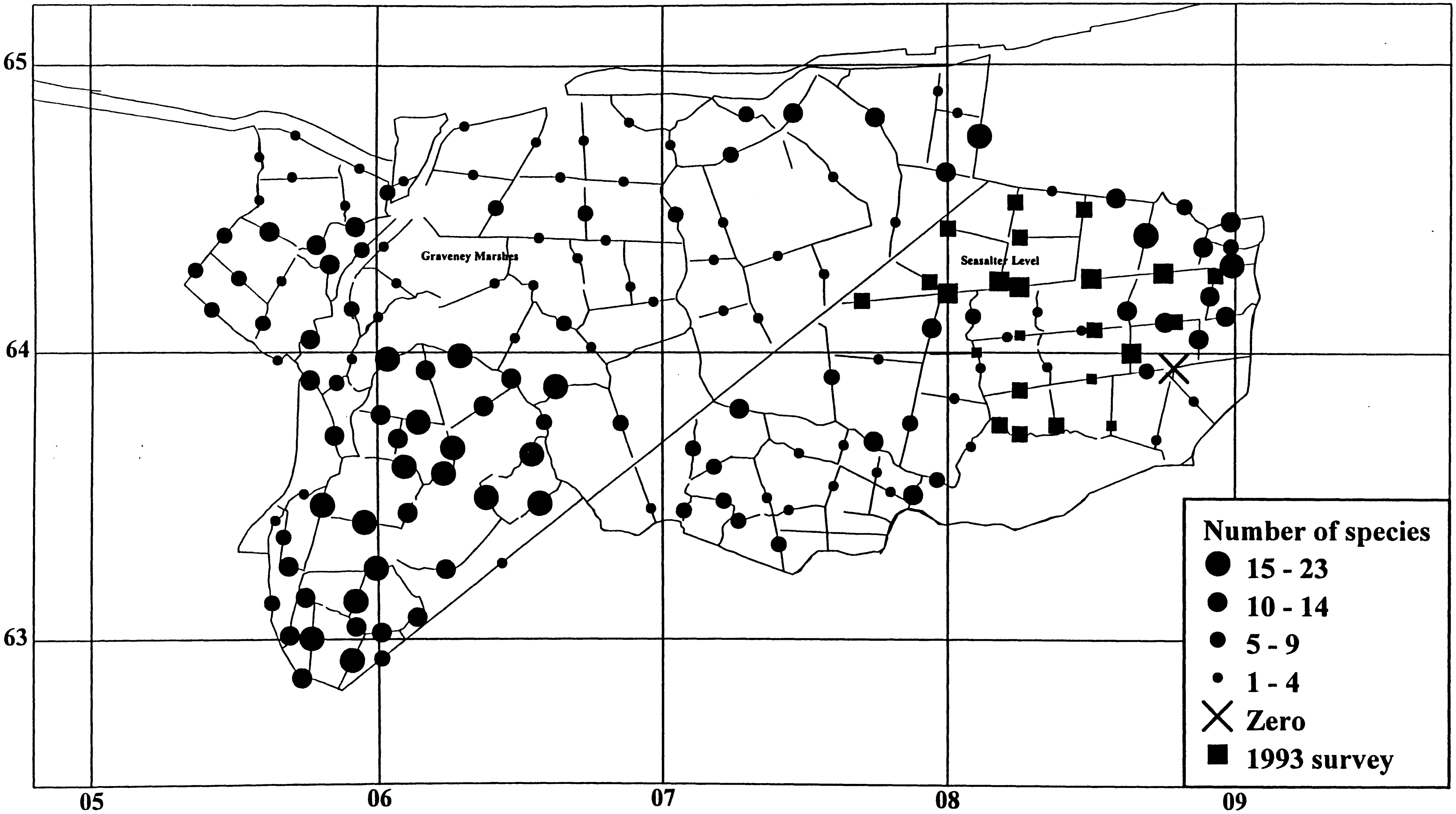
Number of emergent species



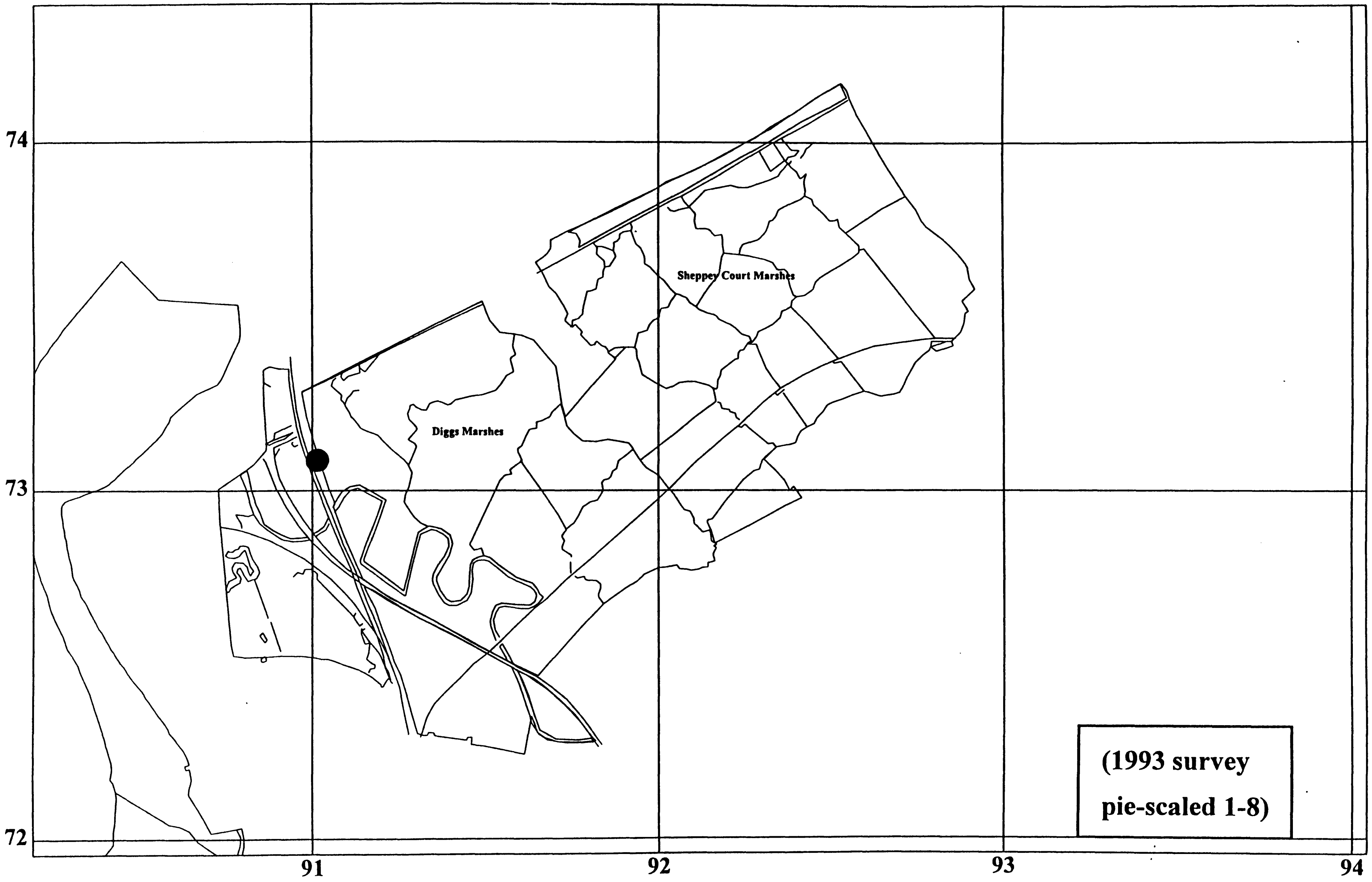
Number of bank species



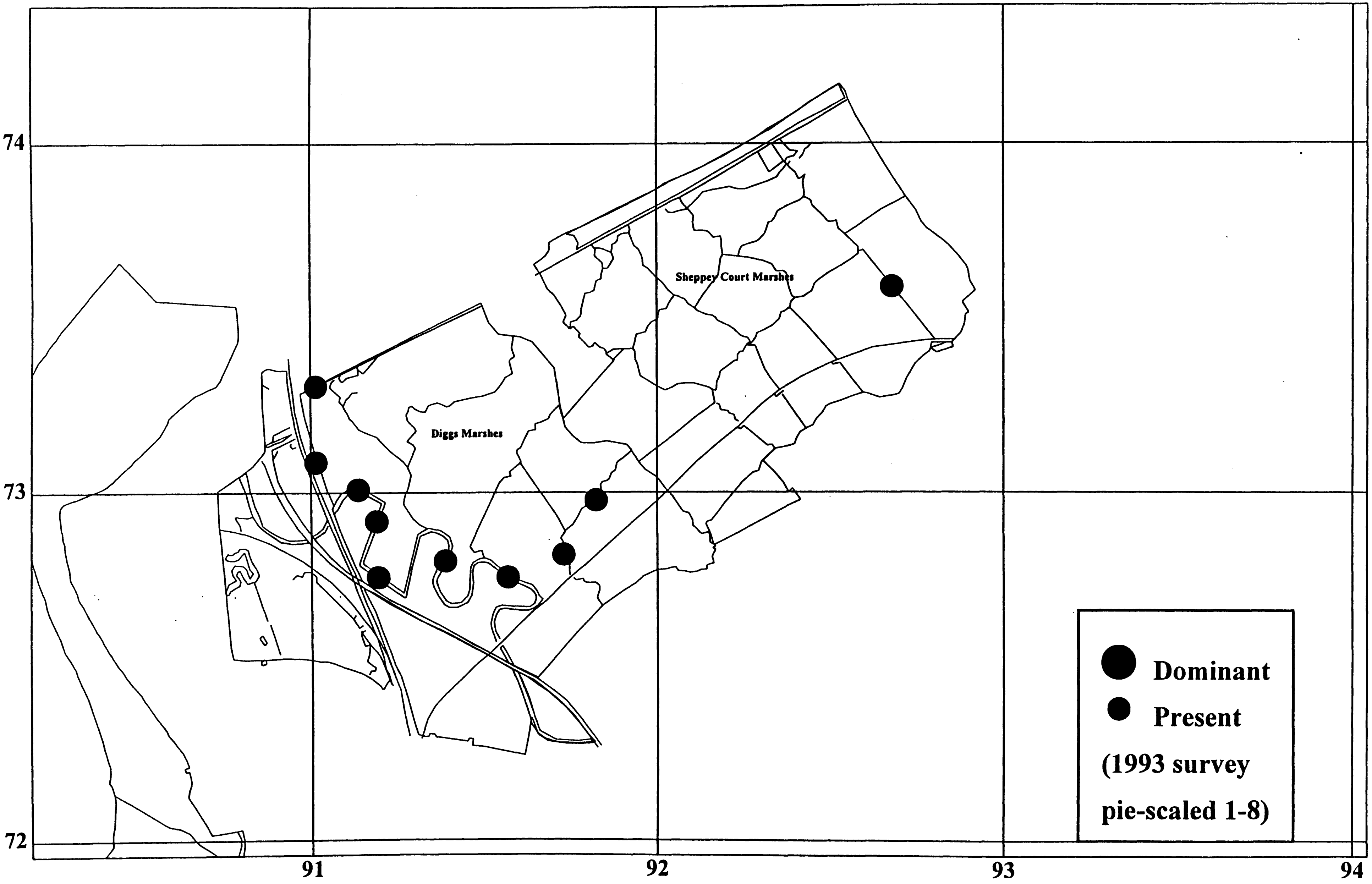
Total number of species



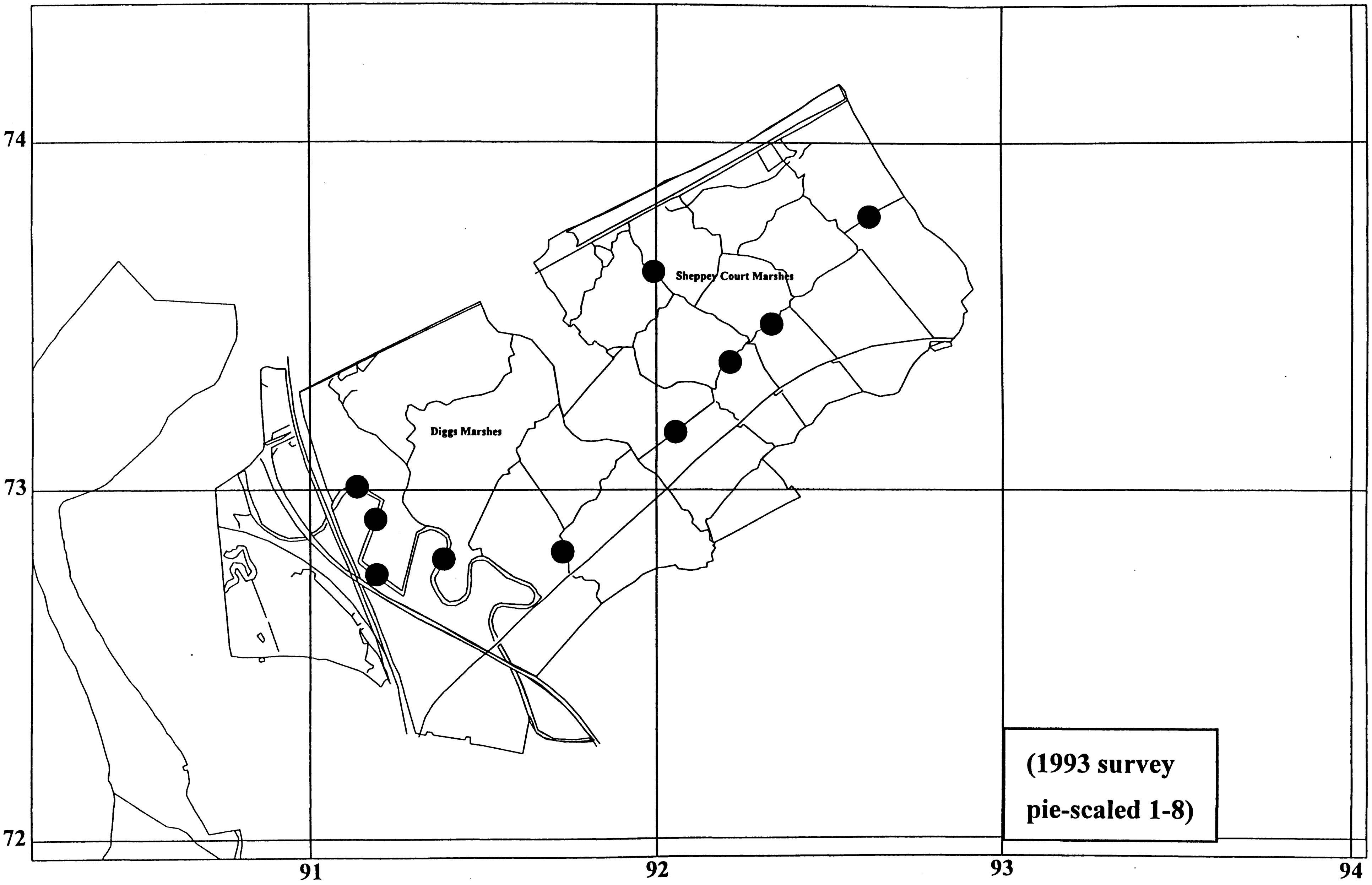
Ceratophyllum demersum



Ceratophyllum submersum

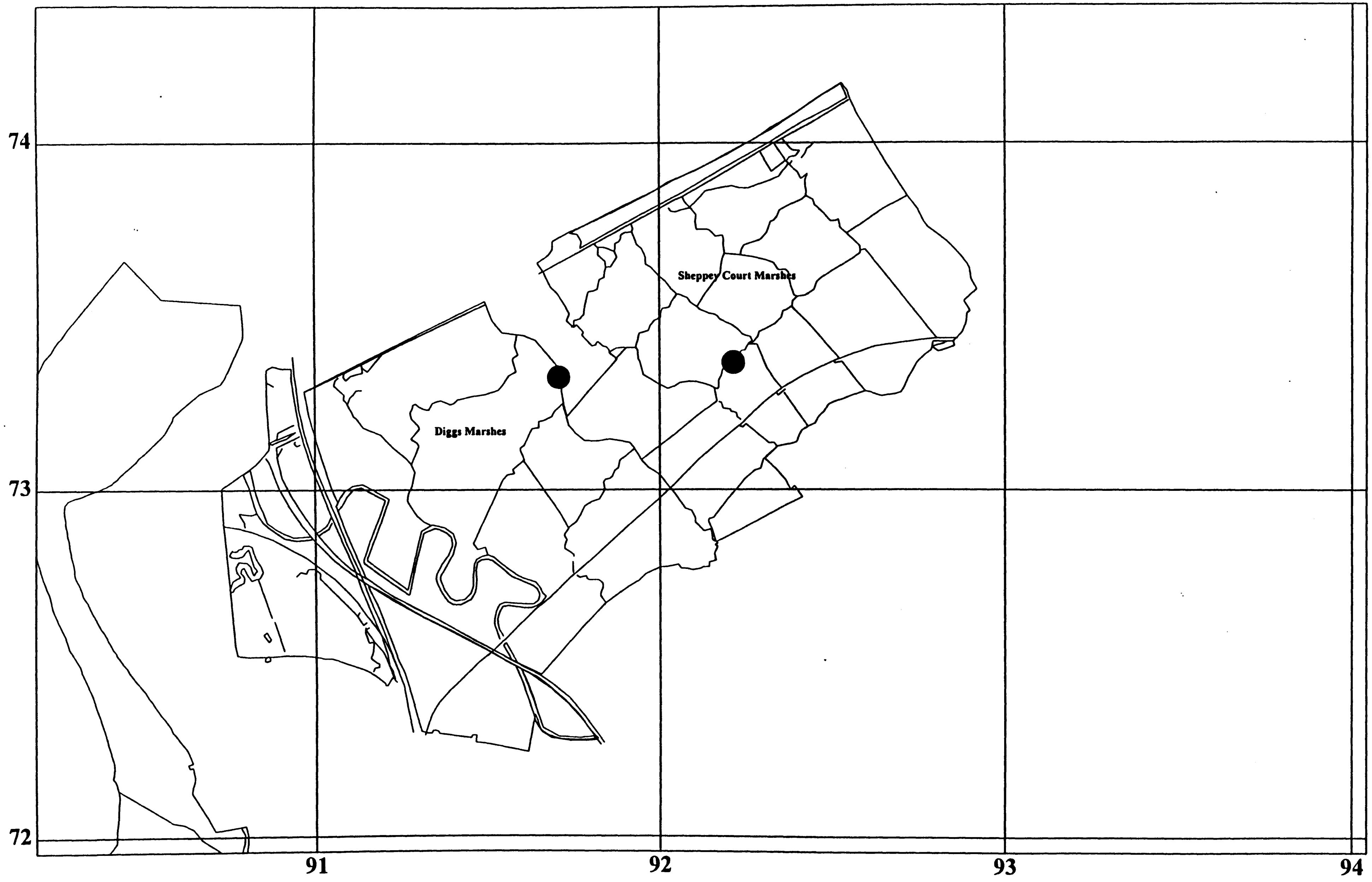


Myriophyllum spicatum

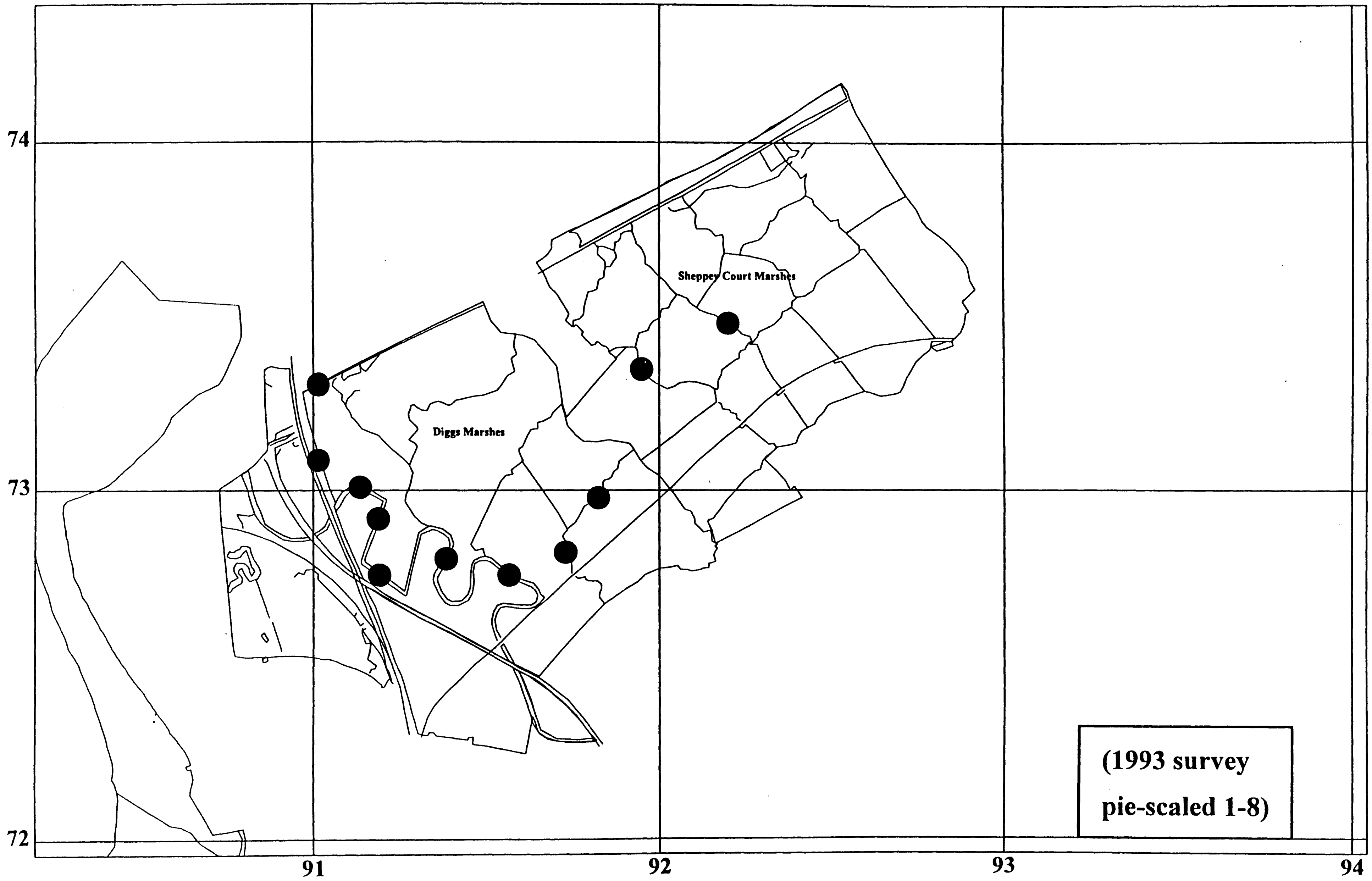


(1993 survey
pie-scaled 1-8)

Nymphaea alba

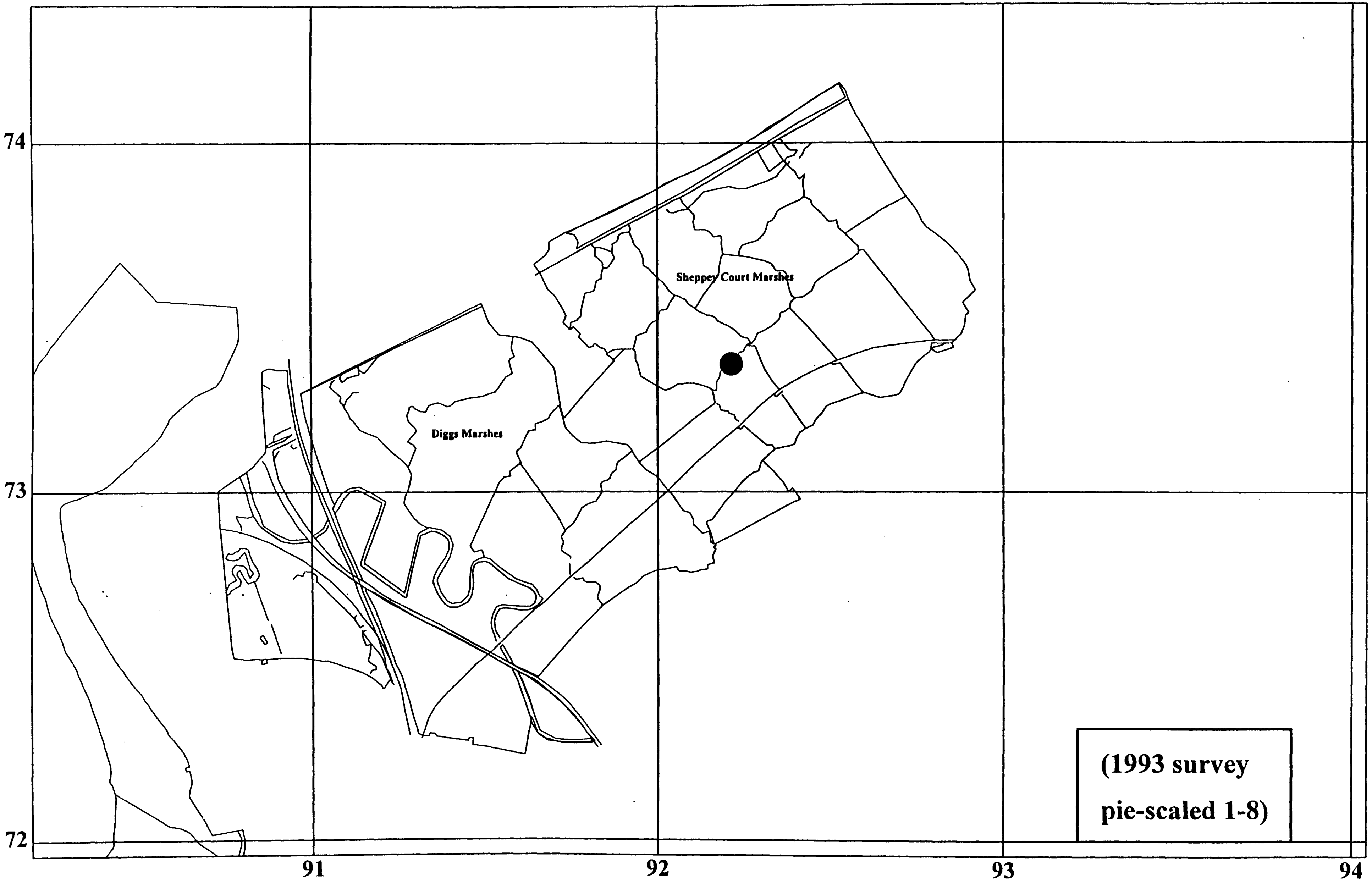


Potamogeton pectinatus

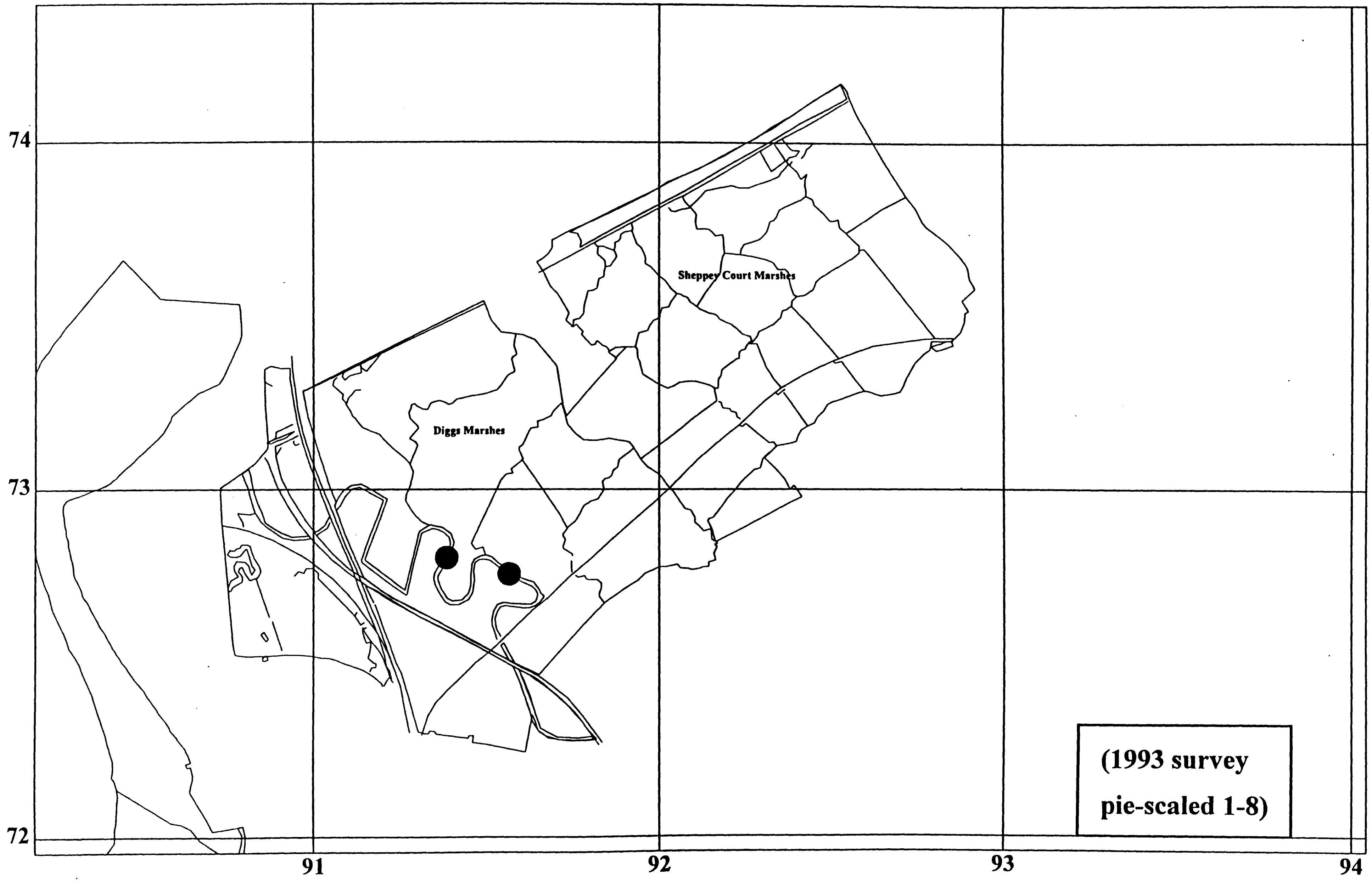


(1993 survey
pie-scaled 1-8)

Ranunculus baudotti

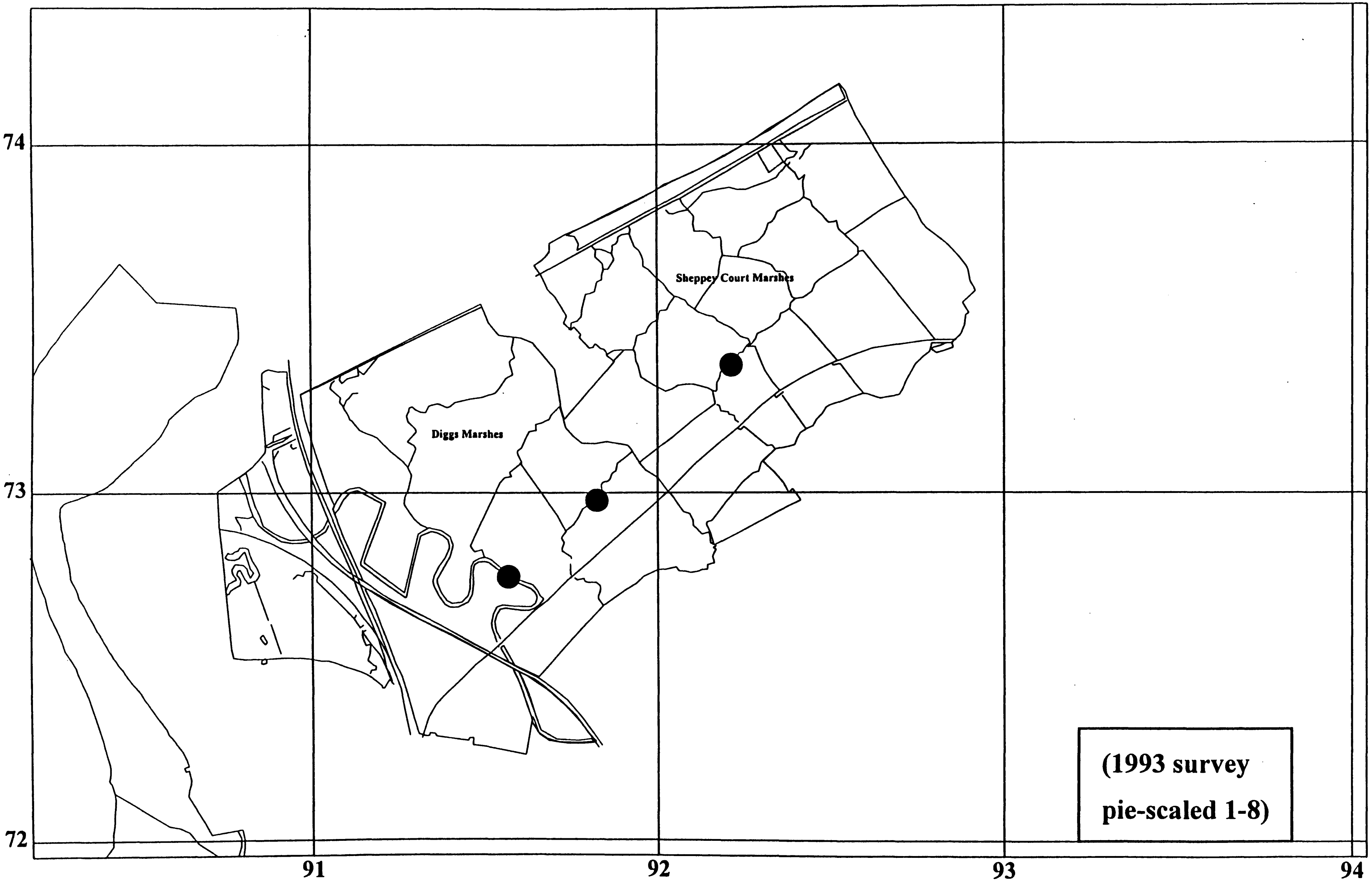


Apium nodiflorum



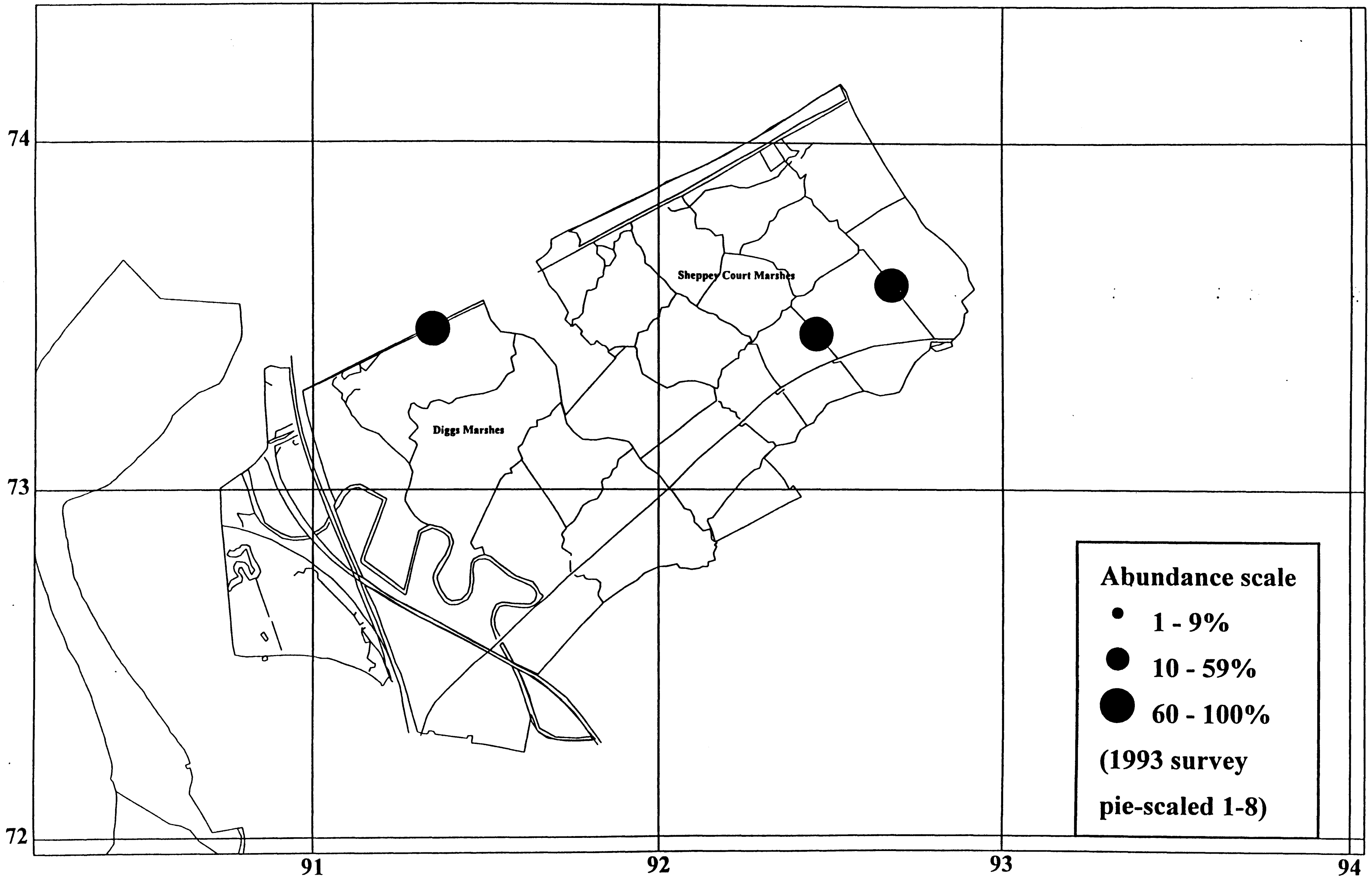
(1993 survey
pie-scaled 1-8)

Nasturtium officinale agg

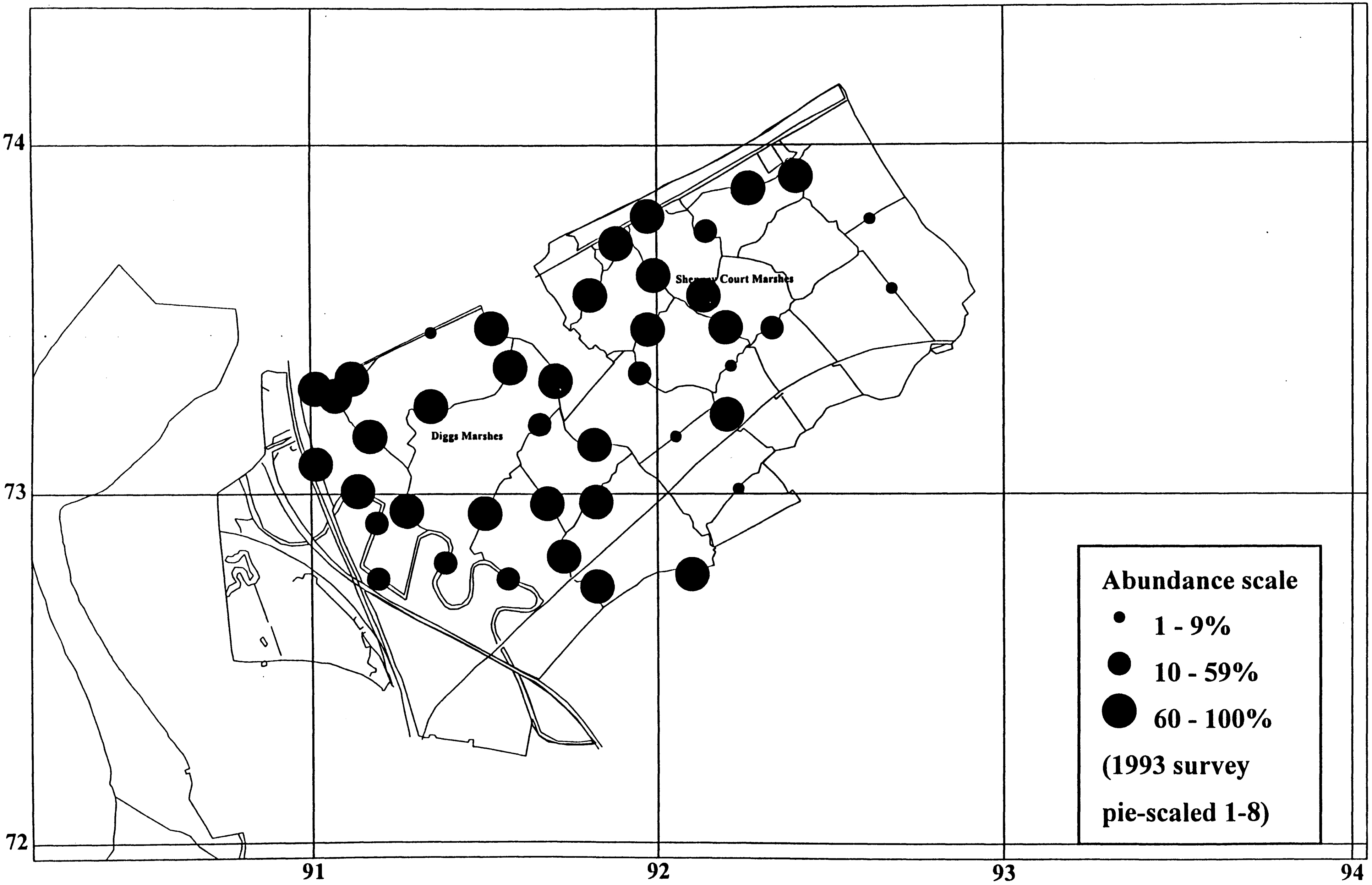


(1993 survey
pie-scaled 1-8)

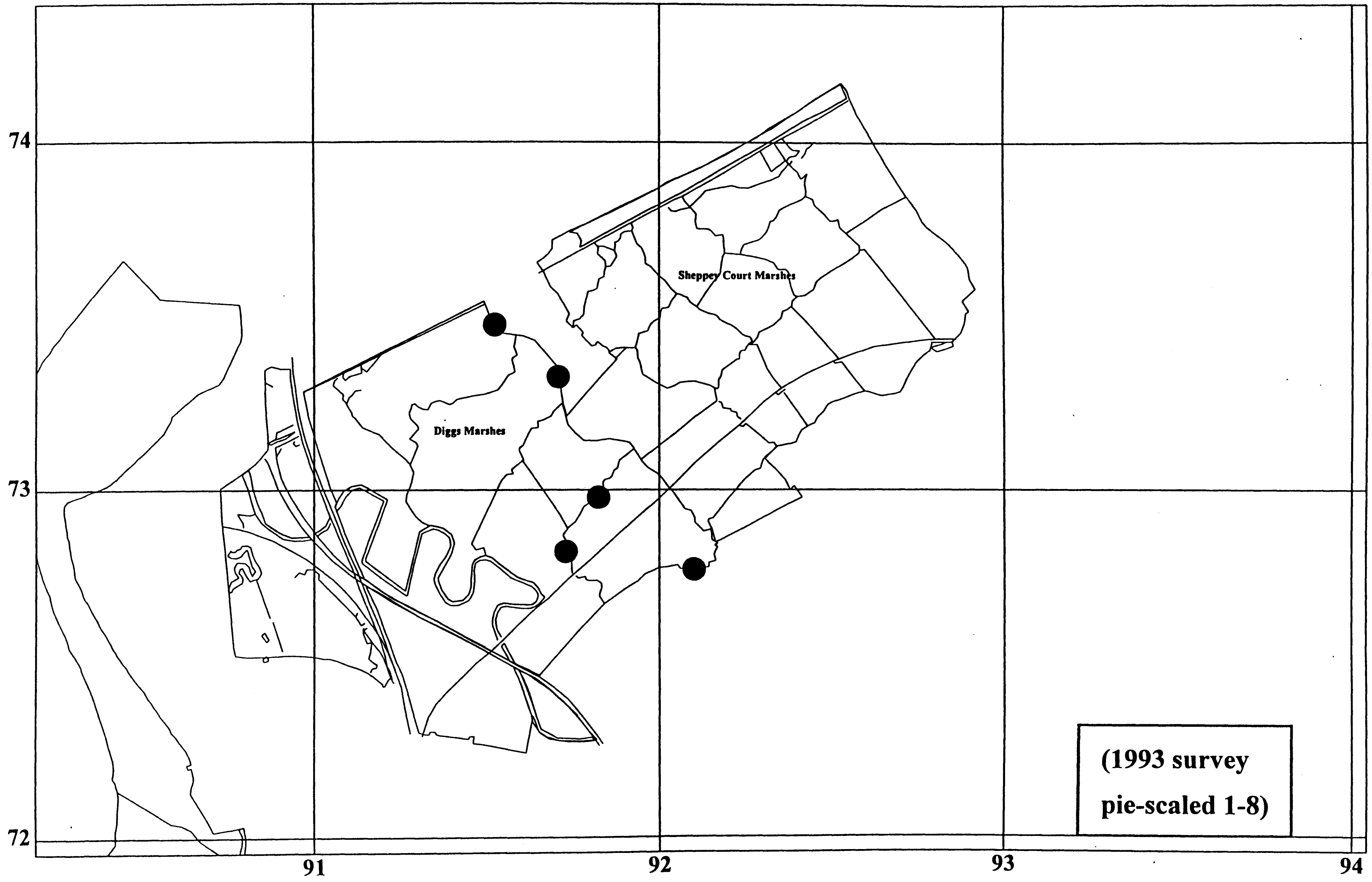
Phragmites australis



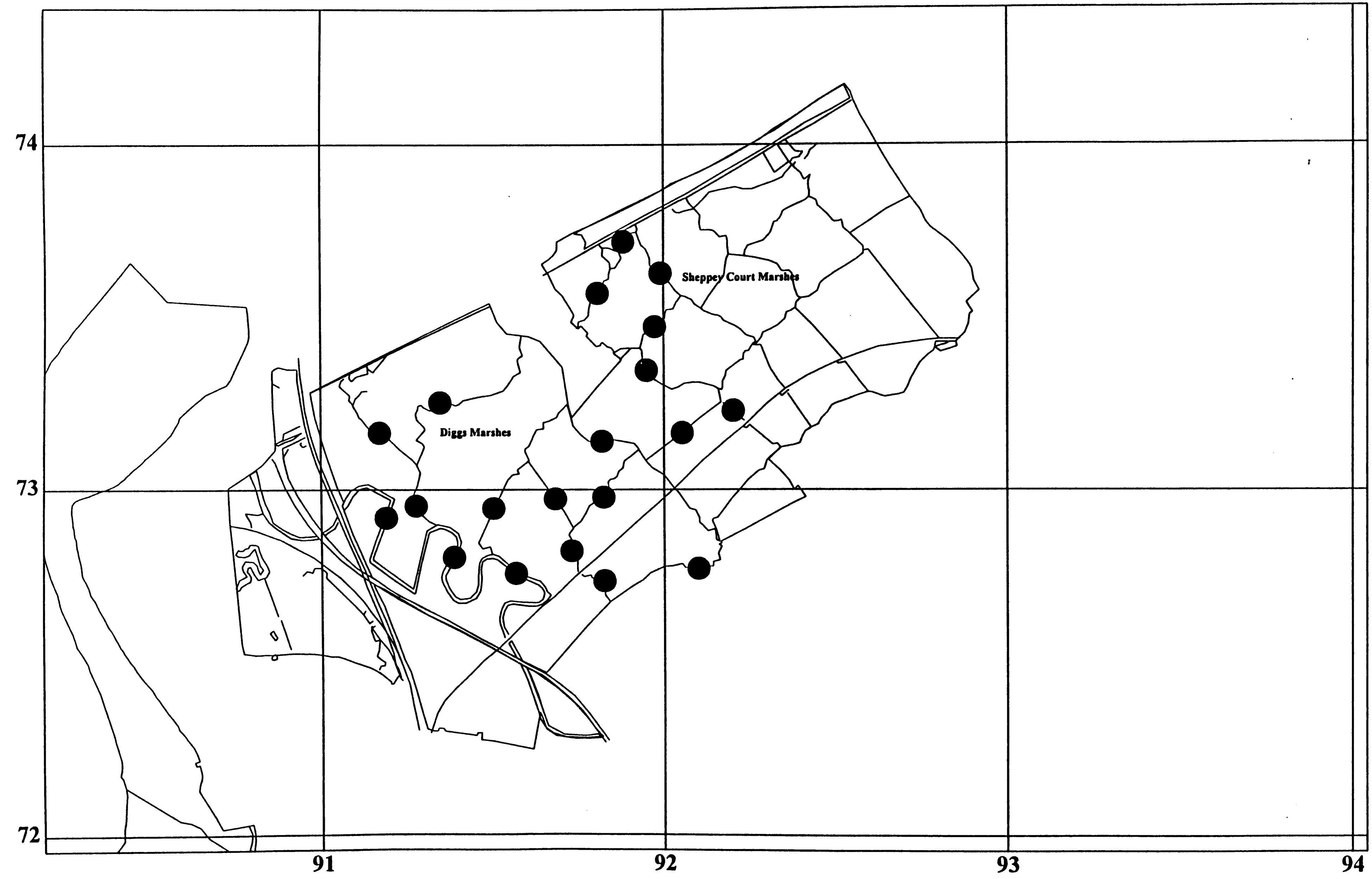
Scirpus maritimus



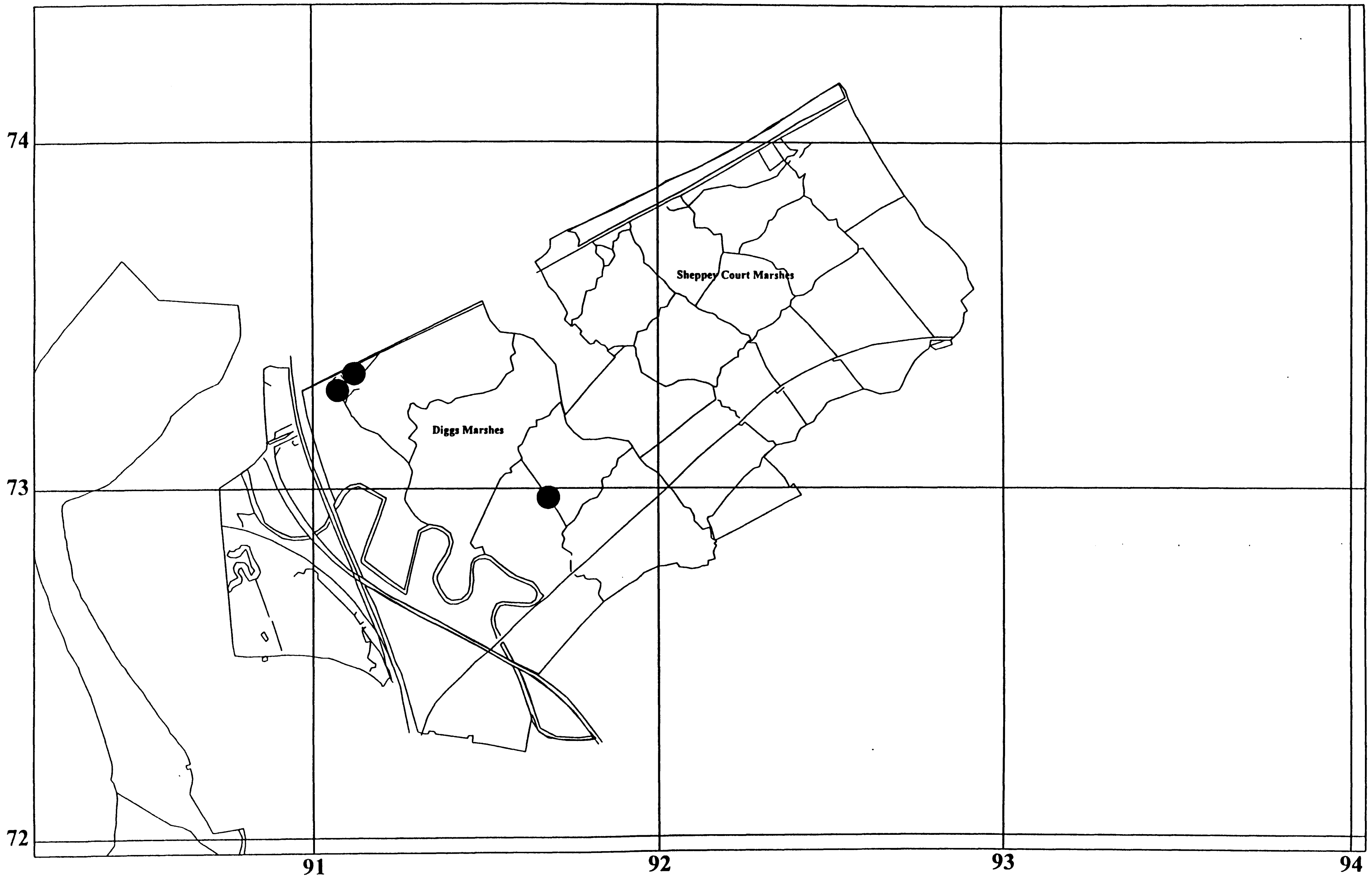
Typha latifolia



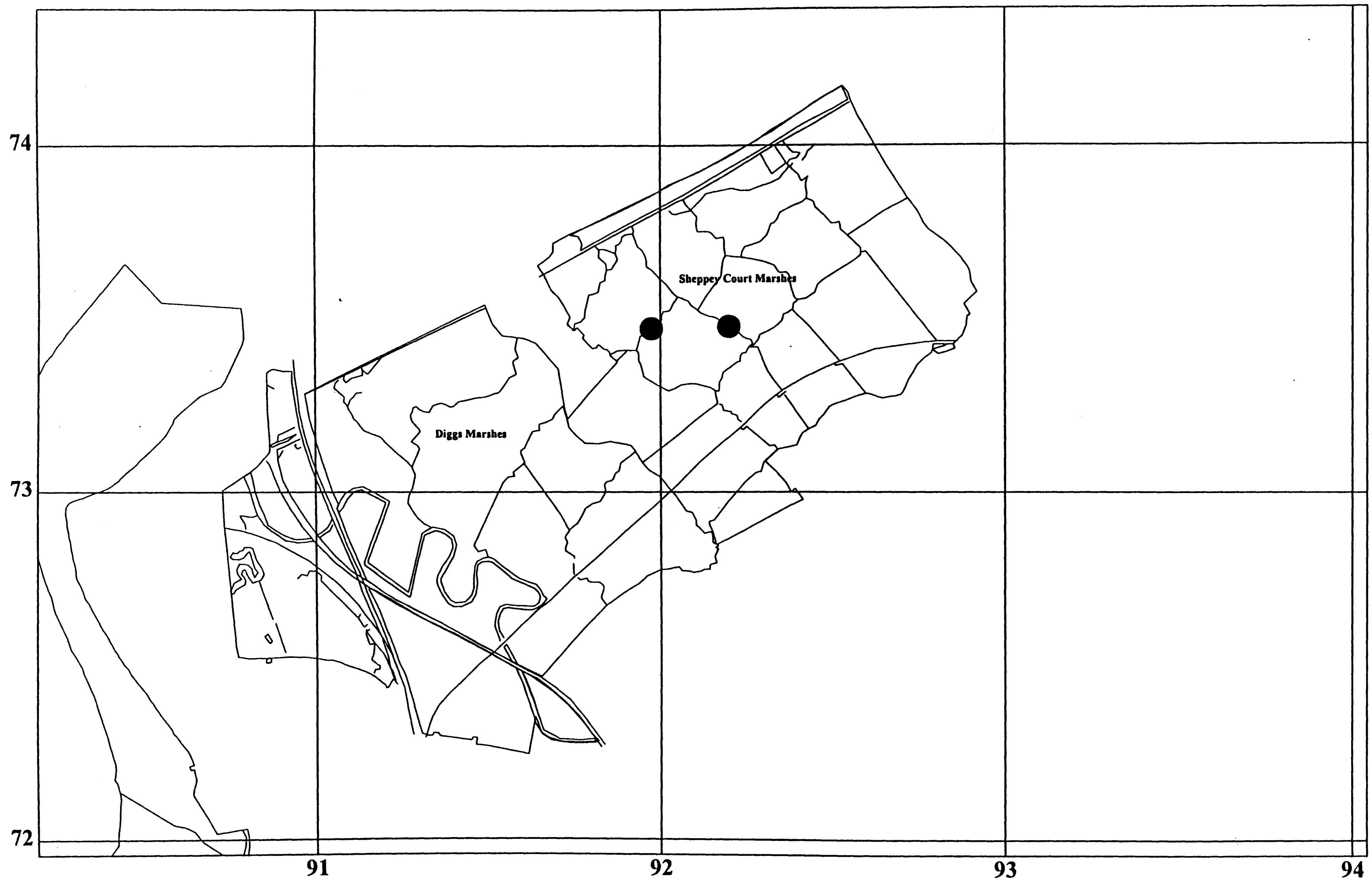
Carex divisa



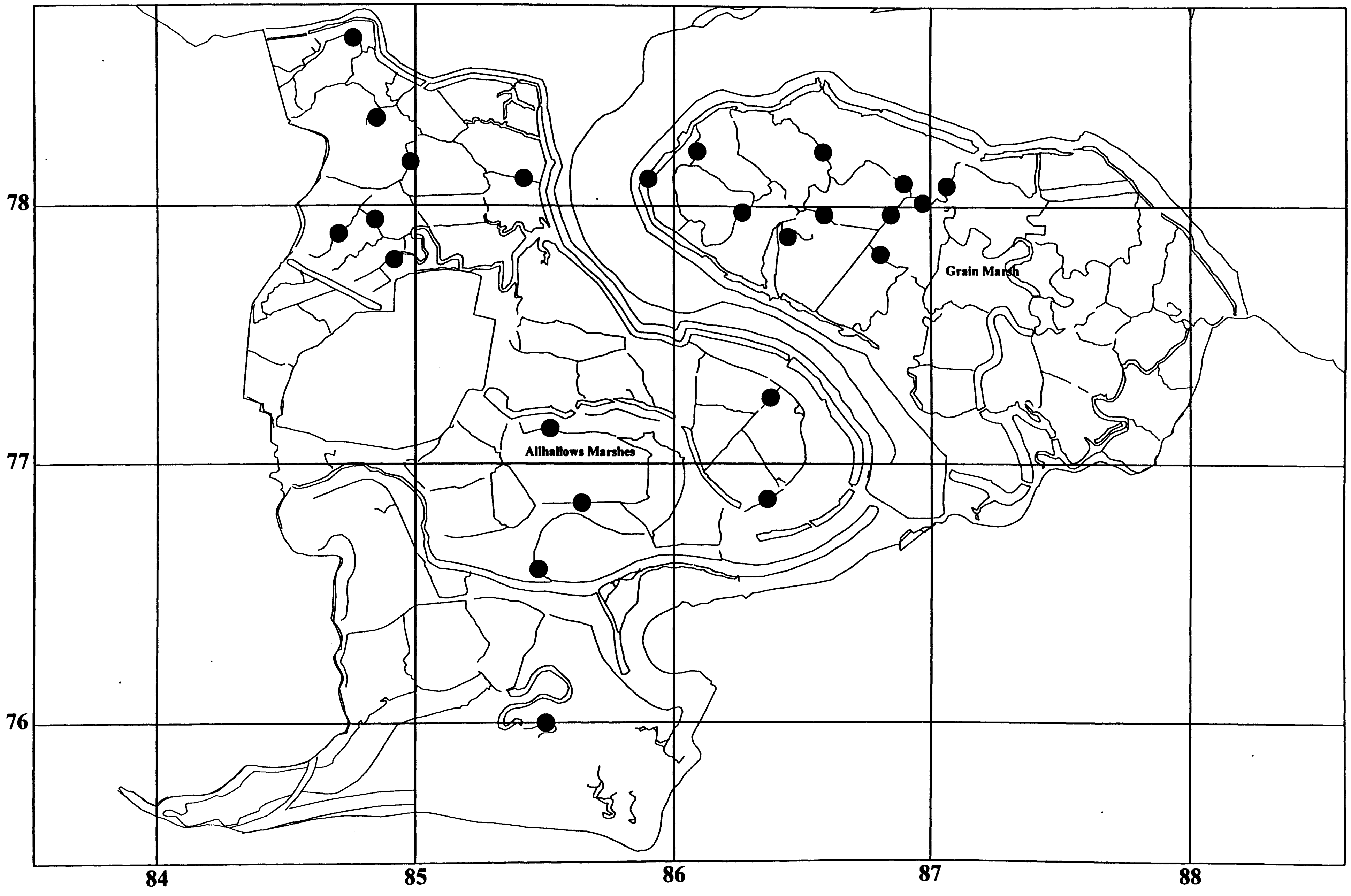
Chenopodium chenopodioides



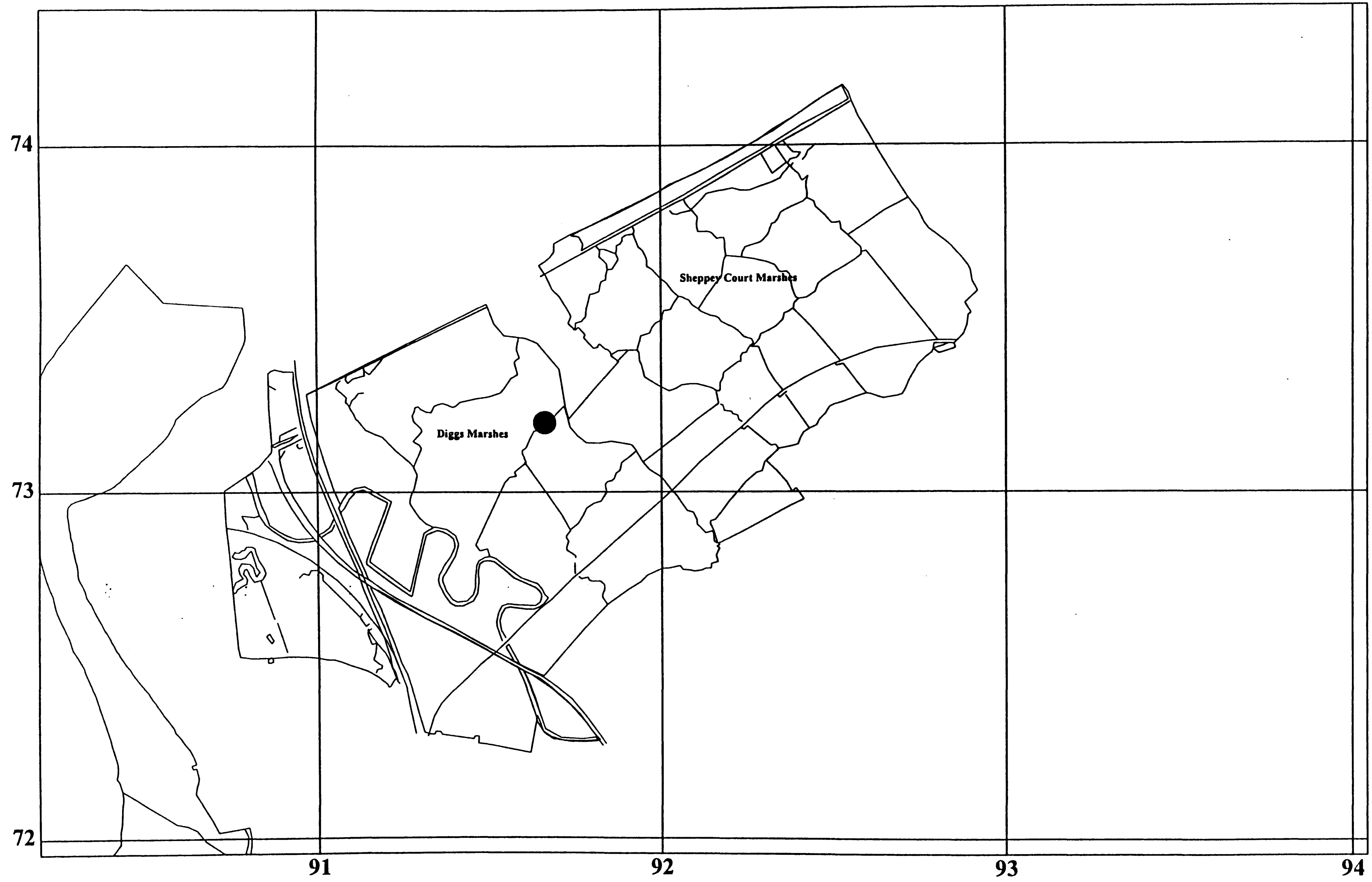
Glaux maritima



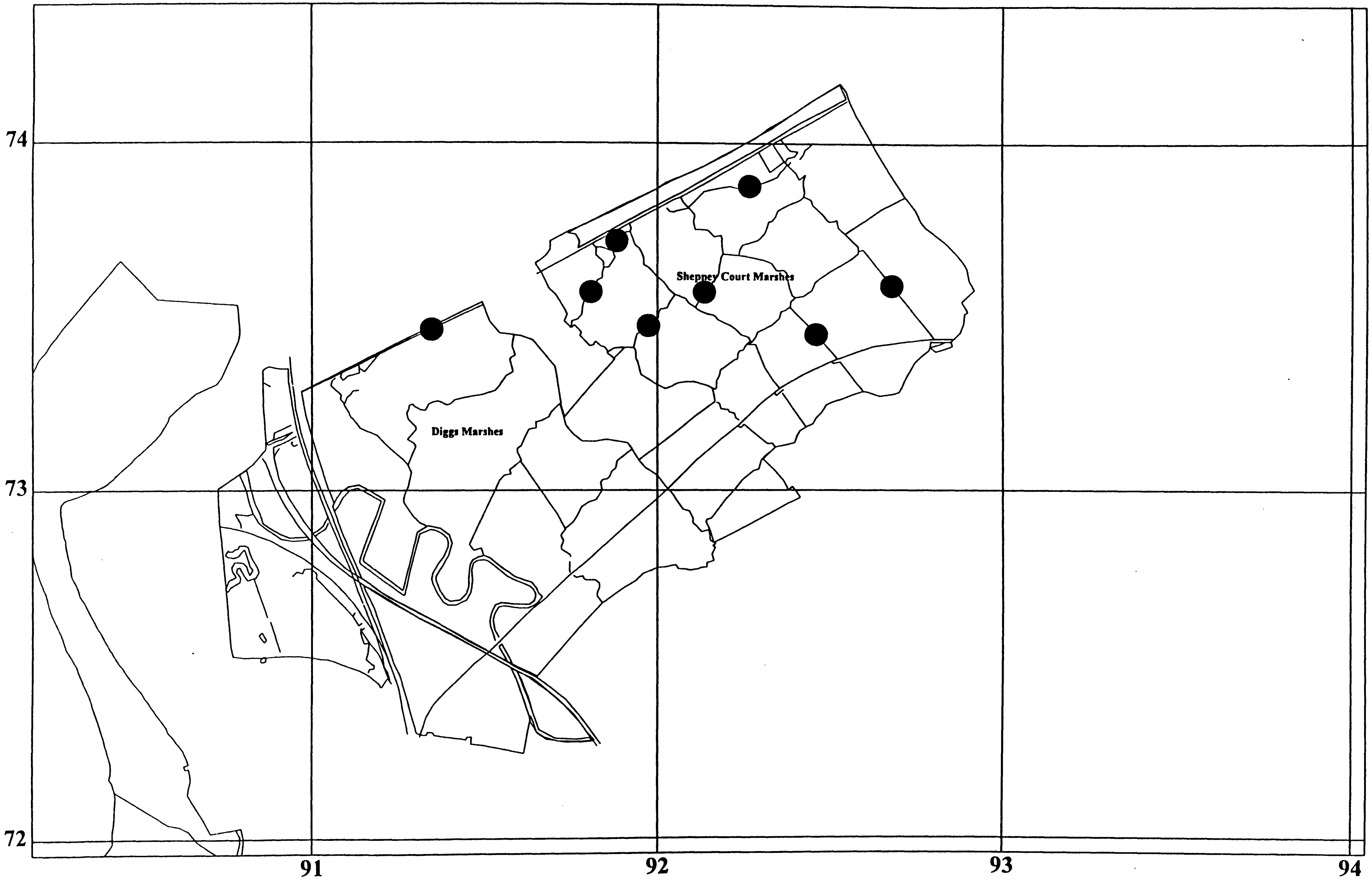
Juncus gerardii



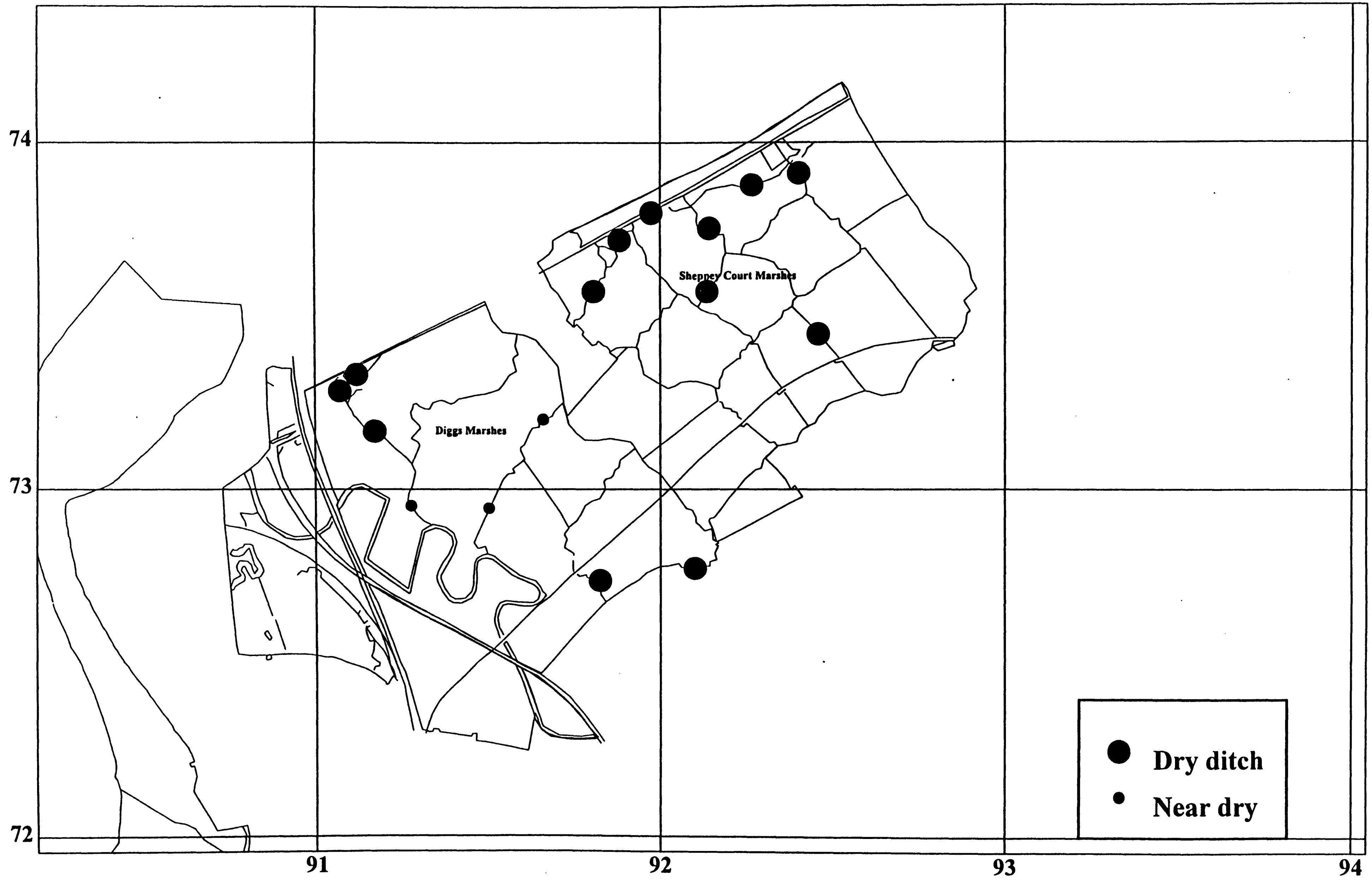
Juncus maritima



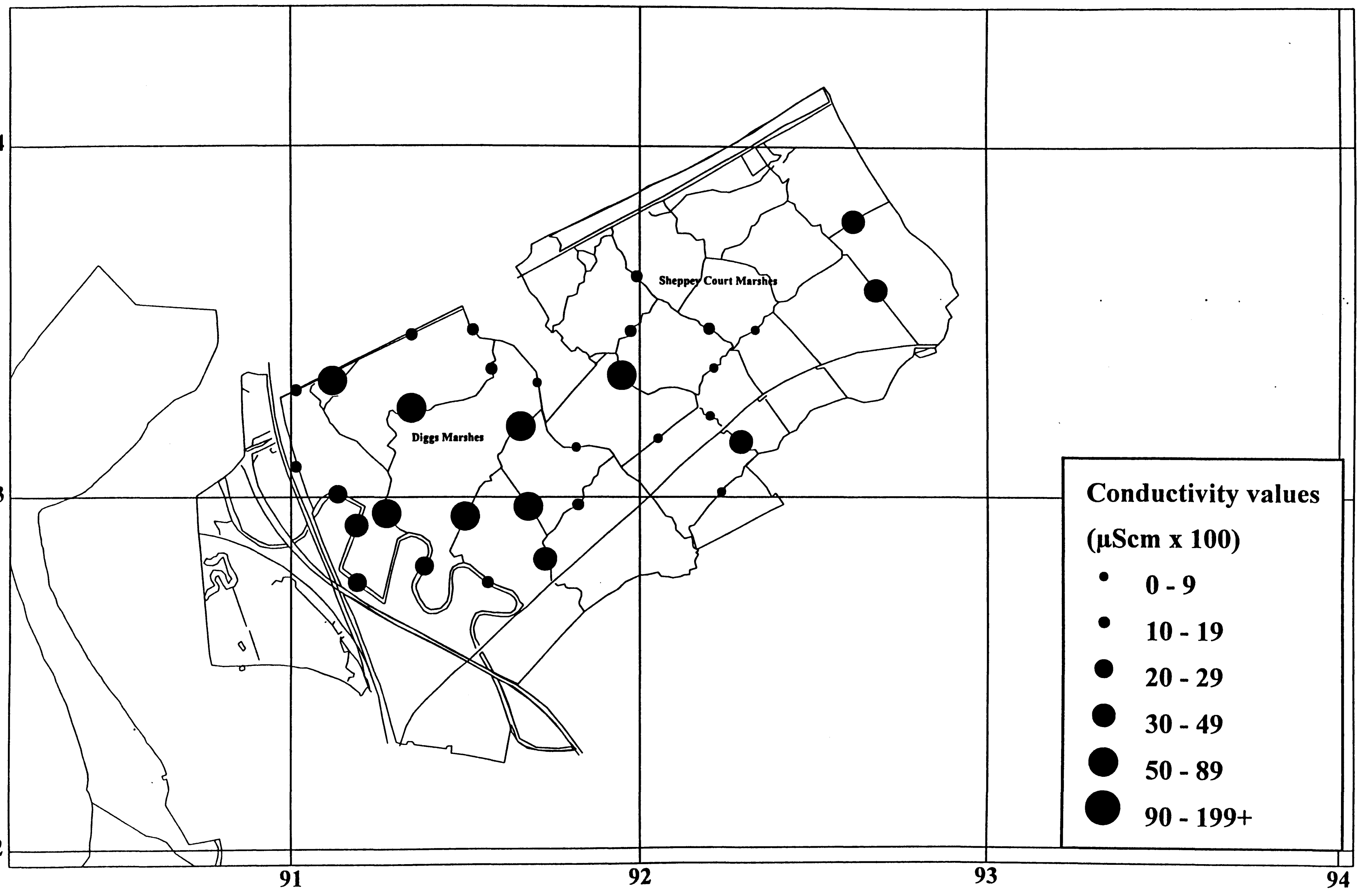
Ditch choked



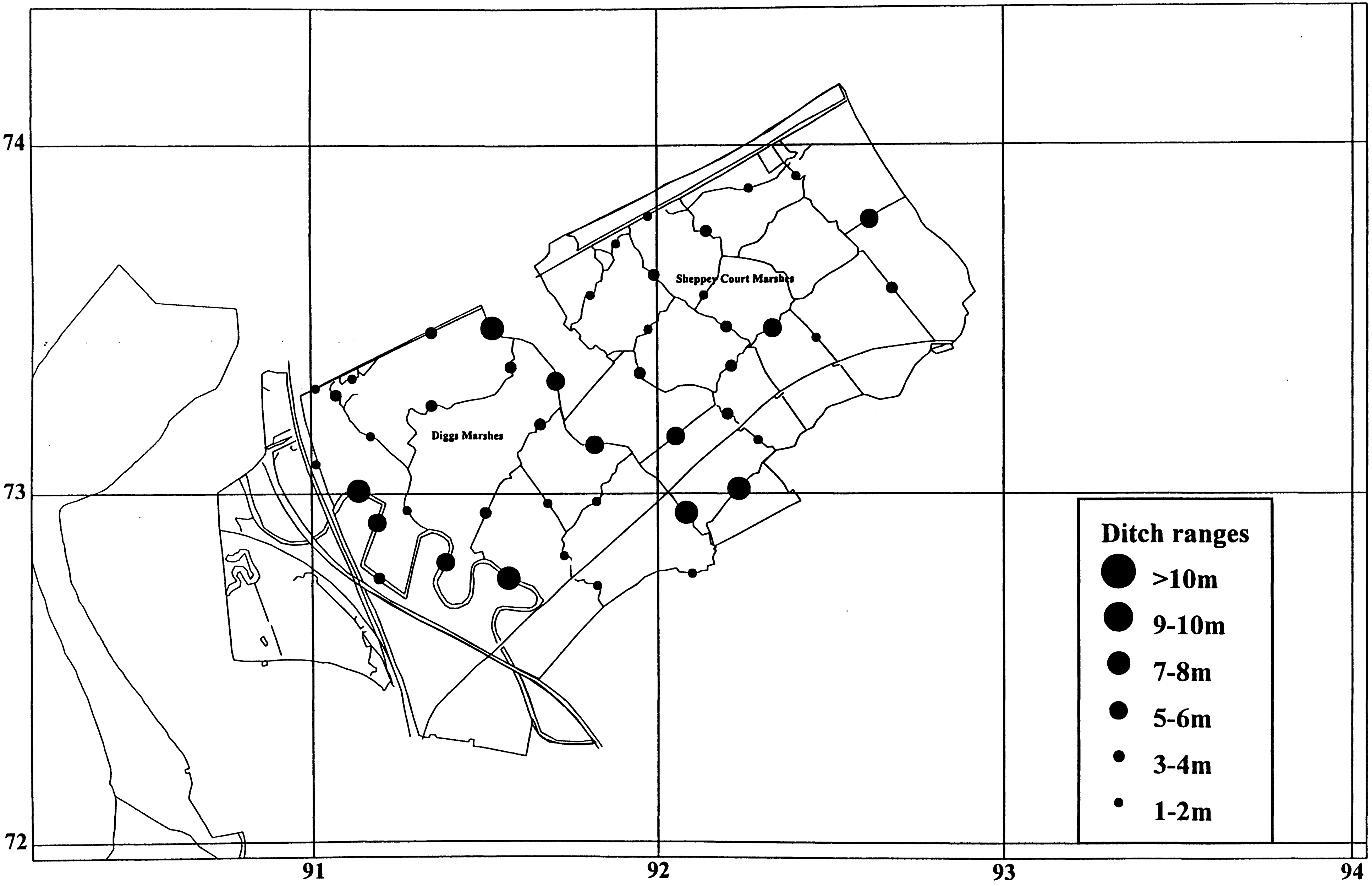
Ditch dry


74
73
72
91
92
93
94
Sheppey Court Marshes
Diggs Marshes
● Dry ditch
• Near dry

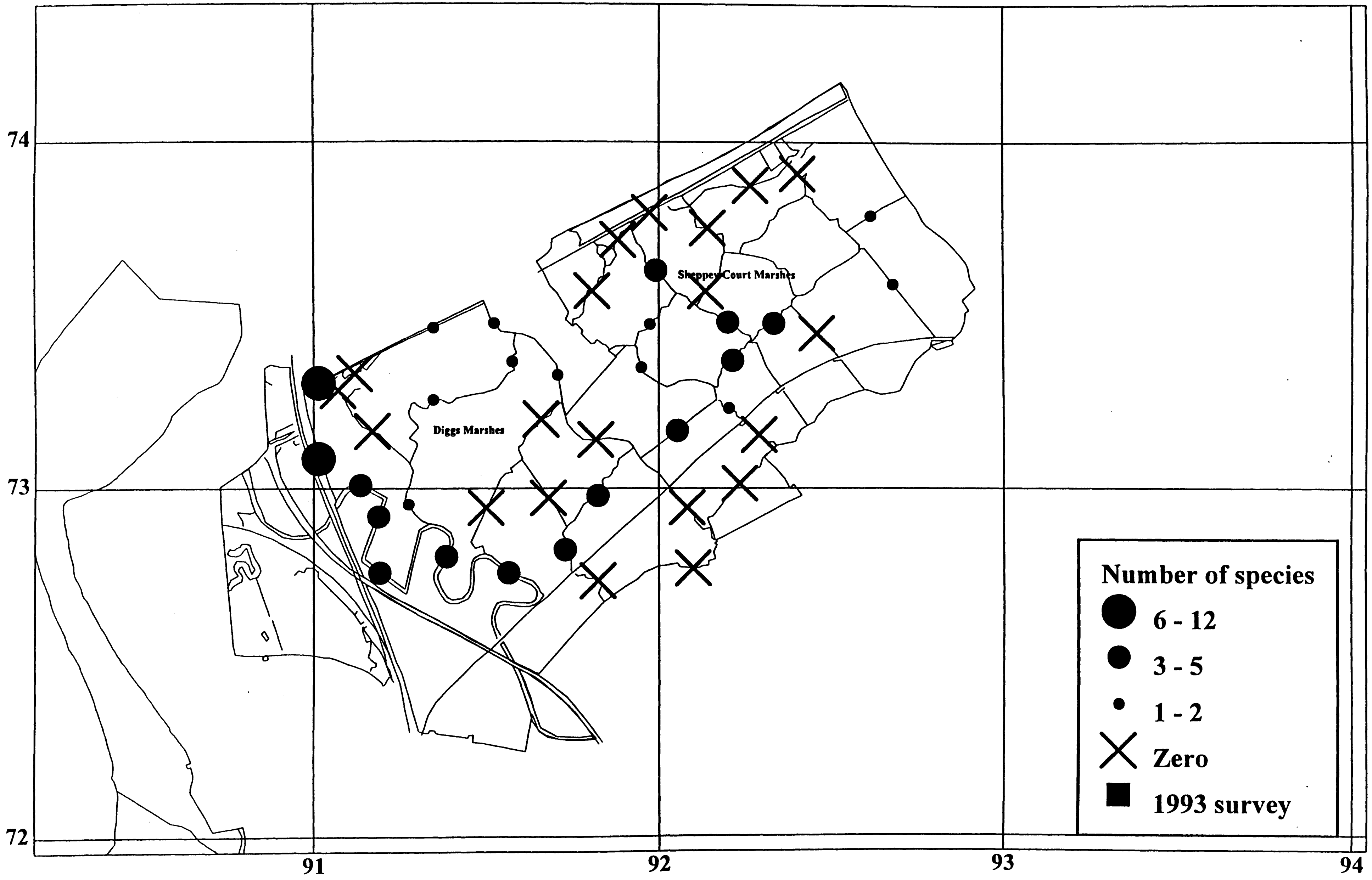
Conductivity values



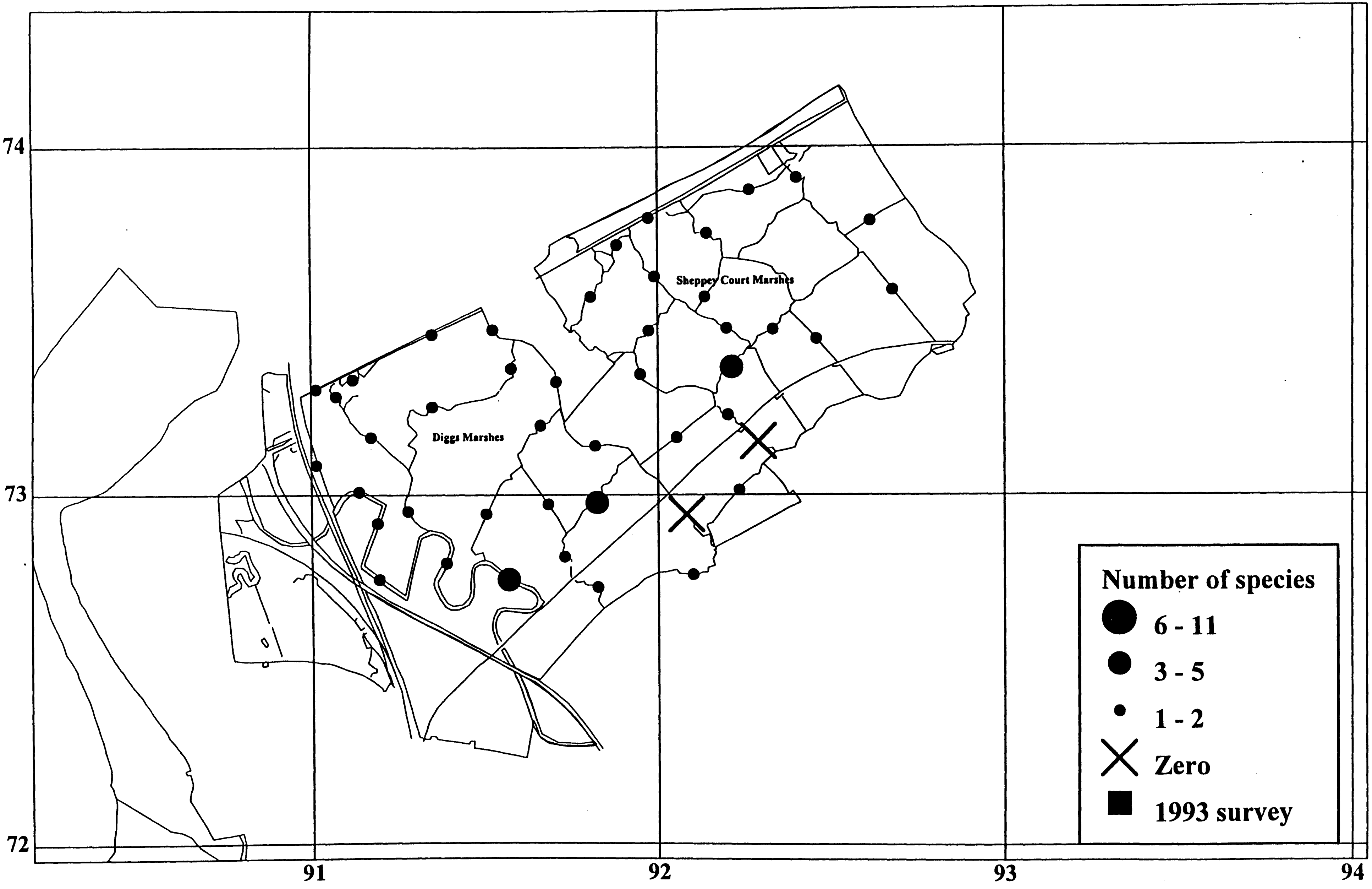
Ditch widths



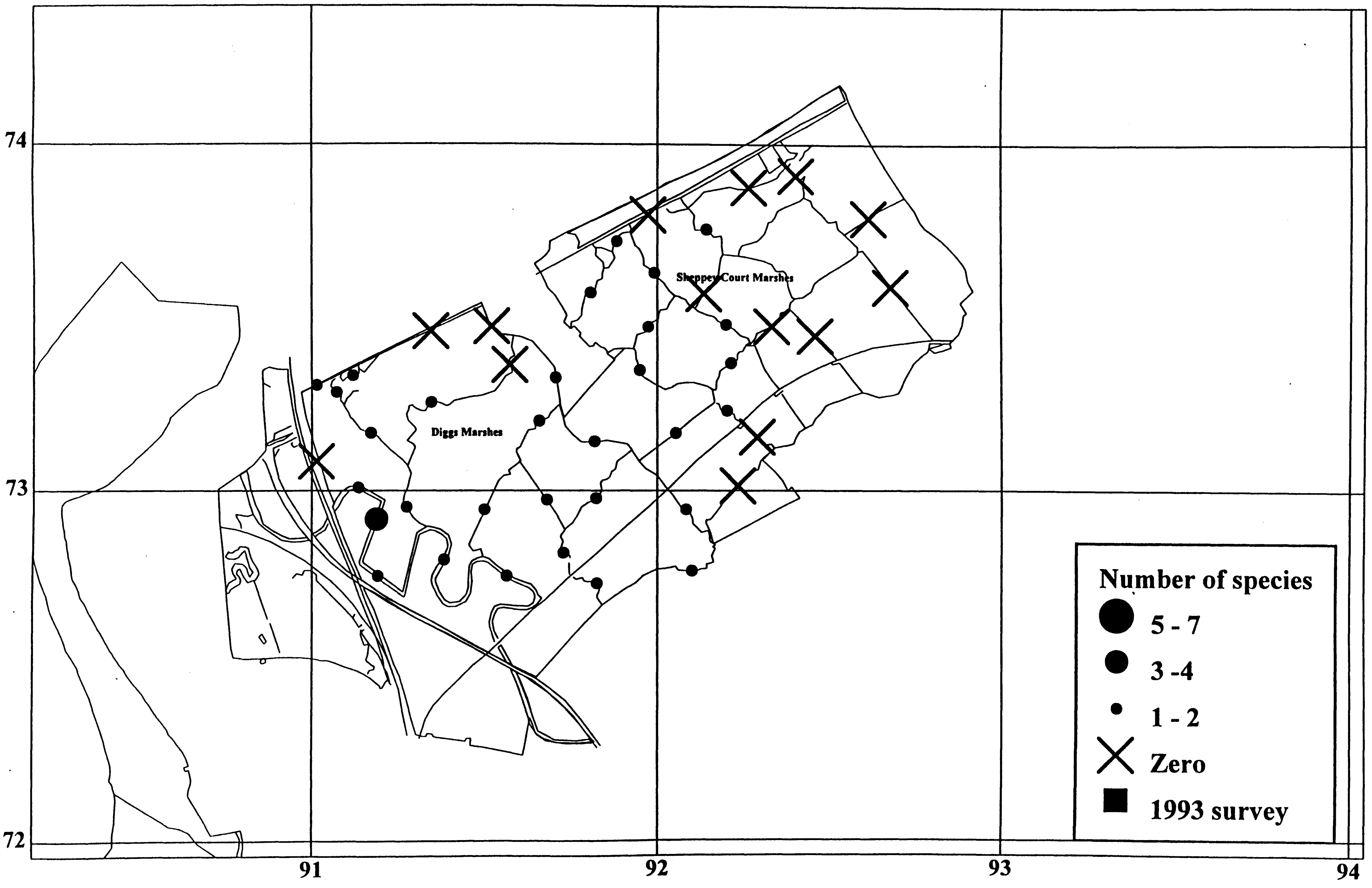
Number of aquatic species



Number of emergent species



Number of bank species



Total number of species